GROUNDWATER HYDROGRAPHS IN NOVA SCOTIA 1965-81

compiled by
J. Robert McIntosh

Department of the Environment

Province of Nova Scotia
Department of the Environment

Groundwater Hydrographs in Nova Scotia

1965 - 81

Compiled by

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Honourable George Moody
Minister

Halifax, Nova Scotia
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Map

Map	Nova Scotia Department of the Environment Groundwater Observation Wells	attached

Foreword

The Province of Nova Scotia initiated, in 1964, a systematic evaluation of regional groundwater resources through the Groundwater Section of the Department of Mines. In 1973, the formation of the Nova Scotia Department of the Environment allowed, for the first time, an integrated assessment of surface and groundwater resources for the province. Over the last twenty years, funding for such regional water resource studies has been mostly a joint Federal-Provincial undertaking under the Agricultural and Rural Development Act (A.R.D.A.), or through the Department of Regional Economic Expansion (D.R.E.E.). To date this programme has enabled the completion of twelve regional water resource projects covering approximately 50% of the Province.

Exploratory wells developed for the various regional projects were monitored to obtain site specific baseline data as to groundwater level elevations and the documentation of groundwater level fluctuations. The observation terms may cover the project's evaluation period or continue following the project's termination. Maintenance of the existing observation wells and the water level recorders is provided by staff of the Nova Scotia Department of the Environment.

This report is a summation of recorded groundwater levels for various observation wells covering the period 1965 to 1981. The recorded data have been compiled and presented using a graph or table format. The graph format illustrates the probable occurrence for groundwater levels pertaining to the hydrostratigraphic unit surrounding the observation well.

All assistance and valuable information received from staff of the Nova Scotia Department of the Environment during the preparation of this report is gratefully acknowledged. To list a few; Mr. J. F. Jones, Dr. C. L. Lin and Mr. Andrew Cameron; Mrs. Heather Pease, Central Registry; Mrs. Ruth Garrison and Miss Heather Doubleday, typing; and Mr. Don Hirtle and Mr. John Cameron, drafting. The following lists of individuals have maintained the observation well programme for various terms:

Joe MacNeil
Urban Holm
Andrew Cameron
Lawrence MacDonald
Frank Cruickshanks
Gerry Fulton
Robert McCharles
John Cameron
Robert McIntosh

It is hoped that the information in this report will be useful for agricultural, municipal, industrial and individual water needs.

A. J. Crouse, P. Eng.
Director
Environmental Assessment

Halifax, November, 1983

- Introduction -

As Canadians we are constantly reminded of one of our greatest natural resources, water. Travel in Canada is not possible without one having to go over, under or around a body of water. Yet on a world wide scale, surface water from lakes and streams, represents less than 4% of the world's utilizable freshwater resources. Groundwater accounts for 95% of the world's utilizable freshwater resources.

Groundwater use in Canada is estimated to be 3.7×10^8 gal/day representing 20% of the total rural and municipal water consumption (Meyboom, 1968). Nova Scotia, with its large rural population, obtains 50% of its potable water from groundwater sources (Coldborne, 1979).

Groundwater is a valuable resource. It is cool, clear, bacterially pure, generally of good chemical quality, and is readily available. Yet in the early sixties, little was known about the groundwater resources of Nova Scotia. Under the Groundwater Section of the Nova Scotia Department of Mines, the province initated in 1964 an extensive program consisting of hydrogeological studies of the groundwater resources of regions in the province. Qualitative and quantitative groundwater data were collected from various test wells constructed for these projects. One facet of the investigations was the monitoring of fluctuating groundwater levels. To build upon the site specific data collected during the regional projects, chosen test wells were maintained on an indefinite basis following project termination.

At present the Nova Scotia Department of the Environment's Groundwater Observation Well Program maintains 28 test wells; 23 in mainland Nova Scotia, three in Cape Breton, and two on Sable Island (See map). Each test well is monitored by a Stevens Type F Recorder Model 68, which produces a graphic record of the test well's water level for a 30 day time period. Data from the completed charts are tabulated for future reference (See attached LIST OF NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT'S OBSERVATION WELLS).

This report is a summary of all the collected data from the various test

wells monitored during the program up to December 31 of 1981. Two formats were used to present the data; a statisical evaluation in graph form and a summary table. The table format records the monthly high and low static water levels for each year of observation. The graph format denotes by date, the historical high and low as well as the average maximum level and average minimum level of the static water level.

Information on well and casing dimensions, lithologic logs, and pump test data has been taken from drillers logs on file with the Nova Scotia Department of the Environment. Surficial and bedrock geology information was provided by the maps accompanying the various regional reports, the Geological Map of the Province of Nova Scotia (Department of Mines and Energy, Nova Scotia 1979), and the Nova Scotia Department of Mines and Energy's Pleistocene Geology and Till Geochemistry Map Series.

Groundwater level fluctuations may be the result of a wide variety of hydrologic phenomena, some natural and some induced by man. Fluctuations resulting from natural occurrences tend to be climate influenced and either short-lived, diurnal or seasonally effected. The "Lisse effect" (air entrapment in the vadose zone during groundwater recharge) and earthquakes produce short-lived fluctuations. Tidal influence, atmospheric pressure, and evapotranspiration result in diurnal changes, while groundwater recharge and bank-storage effects near streams correlate with seasonal variations. Fluctuations in association with man's activities i.e. groundwater pumpage, agricultural irrigation and drainage, and geotechnical drainage are primarily of a long term effect.

Discussed within this report are some of the typical groundwater level fluctuations in Nova Scotia as a result of precipitation, tidal influence, seasonal climate variations, and groundwater pumpage. The probable hydraulic properties of a specific hydrostratigraphic unit and historical site specific elevations of groundwater levels are also included.

NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT'S OBSERVATION WELLS

STATION	COUNTY	WELL NUMBER	GRID NUMBER
COLDBROOK	KINGS	001	21-H-2-A-52-N
TRURO	COLCHESTER	002	11-E-6-B-97-0
GREENWOOD	KINGS	003	21-H-2-B-7-M
FRASER BROOK	COLCHESTER	004	11-E-6-A-81-J
WILMOT	ANNAPOLIS	005	21A-14-D-71-G
AMHERST*	CUMBERLAND	006	21-H-16-A-62-B
MURRAY SIDING	COLCHESTER	007	11-E-6-A-107-K
GILLISDALE*	INVERNESS	008	11-K-3-D-90-M
WOLFVILLE 1	KINGS	009	21-H-1-B-78-E
WOLFVILLE 2	KINGS	010	21-H-1-B-78-K
SHARPE BROOK	KINGS	011	21-H-2-A-18-E
WOLFVILLE 3	KINGS	012	21-H-1-B-78-K
TRURO 420	COLCHESTER	013	11-E-6-B-99-N
TRURO 421	COLCHESTER	014	11-E-6-B-99-F
TRURO	COLCHESTER	015	11-E-6-B-99-E
SABLE ISLAND 19	HALIFAX	016	-
SABLE ISLAND 50	HALIFAX	017	-
SABLE ISLAND 47*	HALIFAX	018	-
MILL VILLAGE*	QUEENS	020	21-A-2-D-17
WITTENBURG FARM	KINGS	021	21-H-1-C-11-C
LOWER CANARD	KINGS	022	21-H-1-C-7-N
THREE BROOKS 6*	PICTOU	023	11-E-10-C-74
THREE BROOKS 5	PICTOU	024	11-E-10-C-74
THREE BROOKS 4	PICTOU	025	11-E-1-C-74
MONASTERY	ANTIGONISH	028	11-F-12-A-91
HAVRE BOUCHER*	ANTIGONISH	029	11-F-12-D-47
POINT ACONI	CAPE BRETON	030	11-K-8-B-70
CANNING*	KINGS	031	21-H-1-C-17-E
BERWICK*	KINGS	032	21-H-2-A-36-0
SHEFFIELD MILLS*	KINGS	033	21-H-1-L-11-M
OXFORD*	CUMBERLAND	034	11-E-12-C-92-0
MURRAY SIDING*	COLCHESTER	035	11-E-6-A-107-K
MURRAY SIDING*	COLCHESTER	036	11-E-6-A-107-K
ANTIGONISH*	ANTIGONISH	037	11-F-12-C-12-E
ANTIGONISH*	ANTIGONISH	038	11-F-12-C-12-E
MUSQUODOBOIT HARBOUR*	HALIFAX	039	11-D-14-A-41-B
MUSQUODOBOIT HARBOUR*	HALIFAX	040	11-D-14-A-41-B
MUSQUODOBOIT HARBOUR*	HALIFAX	041	11-D-14-A-41-B
SABLE ISLAND 17*	HALIFAX	042	-
LAWRENCETOWN L3	HALIFAX	043	11-D-11-C-20
OAKFIELD PARK	HALIFAX	044	11-D-13-D-47
DURHAM	PICTOU	045	11-E-10-B-99
LAWRENCETOWN L1*	HALIFAX	046	11-D-11-C-20
LAWRENCETOWN L2	HALIFAX	047	11-D-11-C-10
KENTVILLE INDUS. PARK	KINGS	048	21-A-2-A-71
NORTH SYDNEY	CAPE BRETON	049	11-K-1-C-50
SYDNEY	CAPE BRETON	050	11-K-1-A-66

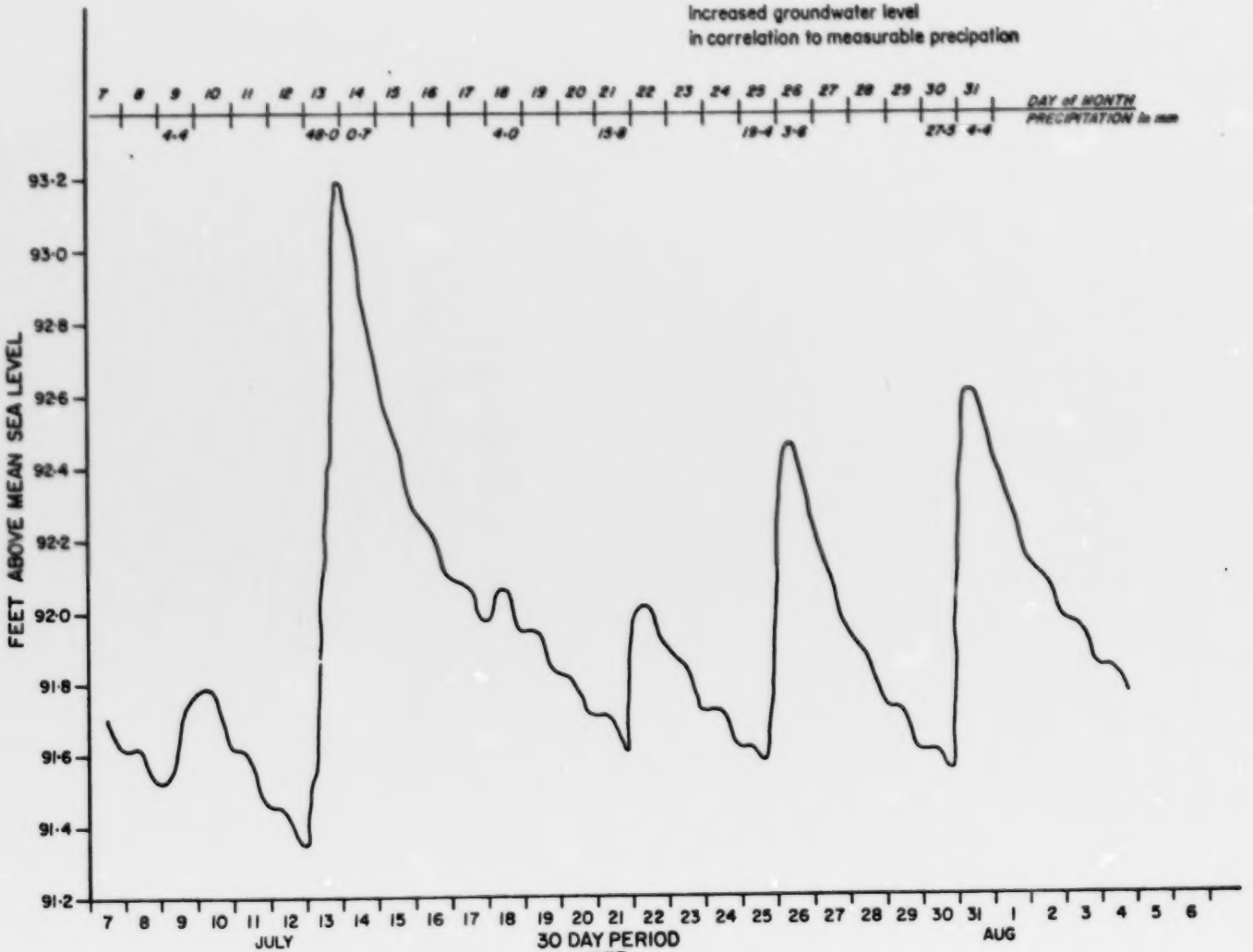
*ABANDONED

Water Level Fluctuations Due to Precipitation

Precipitation that is not intercepted by vegetation, or runs off into streams and surface water bodies, will percolate or seep into the soil. A portion of the water will be retained in the soil by a sponge-like effect referred to as the soil's field capacity. Water in excess of field capacity flows under gravitational influence, percolating down to an impervious layer of clay or rock to collect as groundwater and to eventually re-surface into springs, streams, rivers, and seas. On a world wide scale, the residence time of water in the ground has been estimated to range from two weeks to ten thousand years (Nace, 1971).

To be classified as a renewable resource groundwater must be continously replenished by recharge from precipitation. In Nova Scotia the surficial deposits and bedrock geologic units serve as both a media and storage zone for the land-based portion of the hydrologic cycle. Precipitation data collected at Nova Scotia weather stations during a thirty year period shows the following mean annual total precipitations, Greenwood 1060 mm, Halifax 1381 mm, Sable Island 1270 mm, Sydney 1341 mm, Yarmouth 1283 mm (Hare, and Thomas, 1974).

The hydrograph presented in Figure 1 represents a graphic record for the period July 7 to August 4, 1977 of the static water level in Observation Well 003. It illustrates the correlation of precipitation and increased groundwater levels. Dramatic increases in the water table level documented in Figure 1 are in conjunction with measurable precipitation recorded at Atmospheric Environment Station, C.F.B. Greenwood Nova Scotia.



NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT
GROUNDWATER OBSERVATION WELL 003

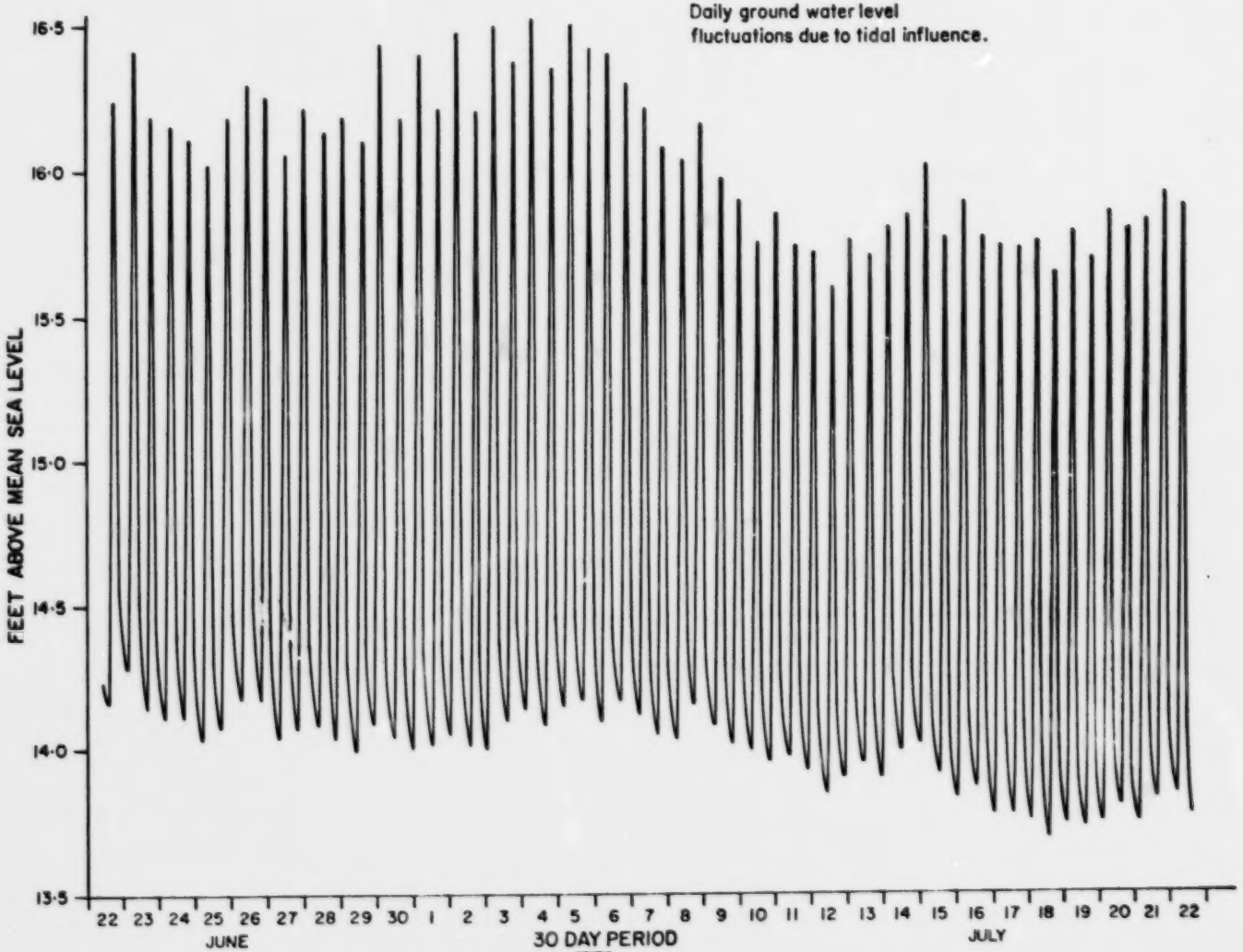
FIGURE – 1

Water Level Fluctuations Due to Tidal Influence

As with any maritime region the ocean influences the climate, the demography, and the economy. However one phenomenon not so readily realized is the diurnal fluctuation of groundwater levels in the freshwater/saltwater interface resultant from tidal changes. The hydrograph presented in Figure 2 is a salient example of the oscillatory effect upon coastal aquifers due to tidal fluctuations.

To Nova Scotia, with its vast coastline, the population in proixmity to the ocean, and their dependence upon groundwater as a source for potable water, this occurrence takes on added importance. Monitoring of coastal aquifers subjected to quantity removal of groundwater is essential in aiding to detect the possible migration of saltwater into freshwater aquifers; referred to as a seawater intrusion.

The Ghyben-Herzberg principle states that freshwater in unconfined coastal aquifers extends to a depth 40 times the height that the water table is found above mean sea level. Due to their differences in density fresh groundwater is considered to be floating on seawater within the aquifer. The quantity removal of water from a coastal aquifer may reduce the freshwater movement seaward and lower the water table enough to cause seawater intrusion.



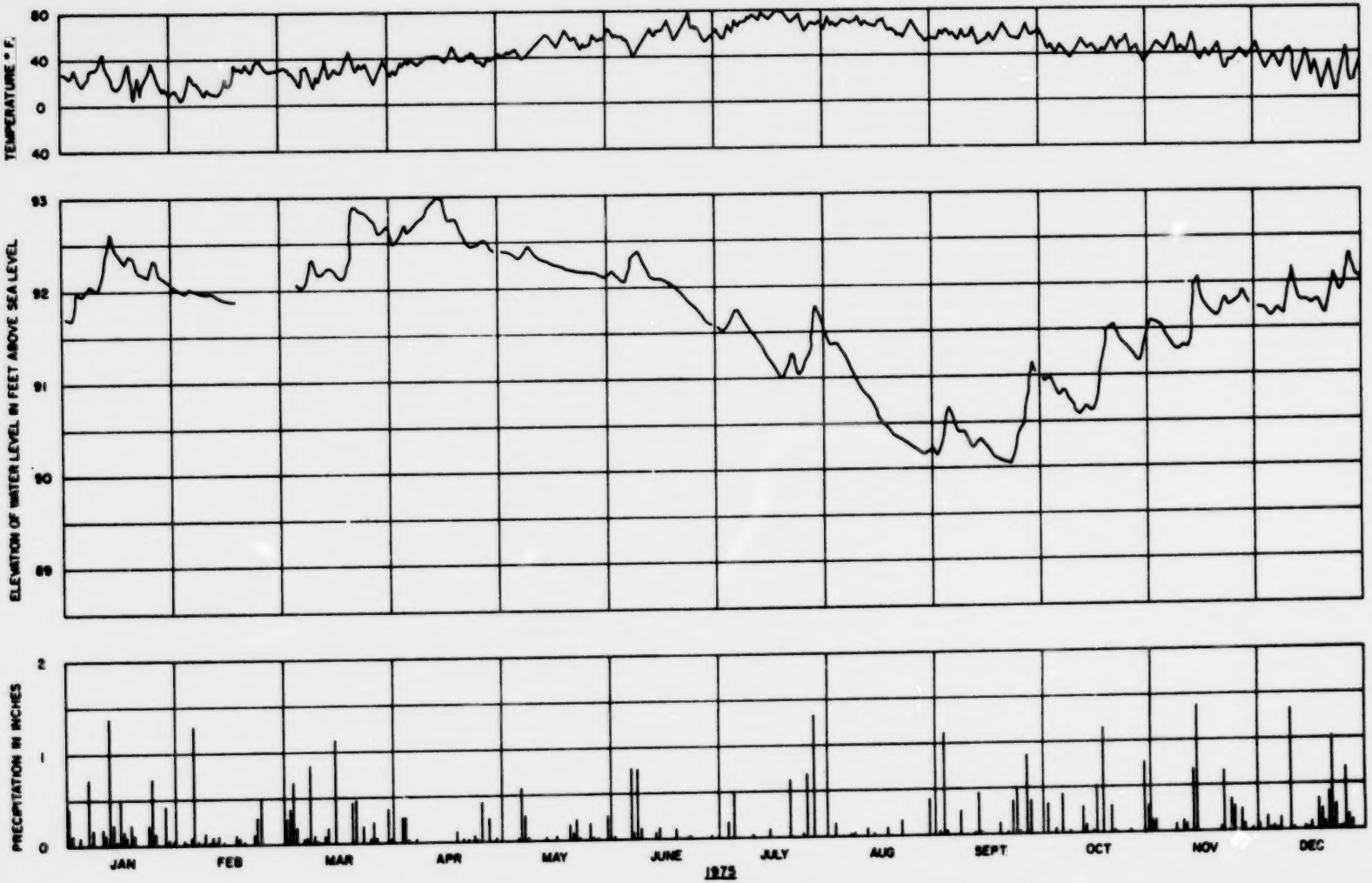
NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT
GROUNDWATER OBSERVATION WELL 012

FIGURE – 2

Seasonal Variations of Groundwater Levels

Obvious to most Canadians is the correlation of surface water quantity and seasonal climate variations, however unknown to the majority is the relationship existing between groundwater quantity and seasonal climate variations. The hydrograph in Figure 3 shows the daily average static water level in Nova Scotia Deparment of the Environment's observation well 003 for the year 1975. The hydrograph is representative of the water table contained in a sandy surficial deposit and may be expanded to include the general occurrence of groundwater in Nova Scotia.

Data presented in Figure 3 indicate that the water table level varied by approximately three feet in 1975. The recorded high occurred during the month of April when the daily mean temperatures remained above the freezing point and resulted in the melting of the accumulated snow. The lower water table levels appear during the later months of summer and are the result of several factors; decreased precipitation and increased vegetation interception of precipitation, transpiration and evaporation.



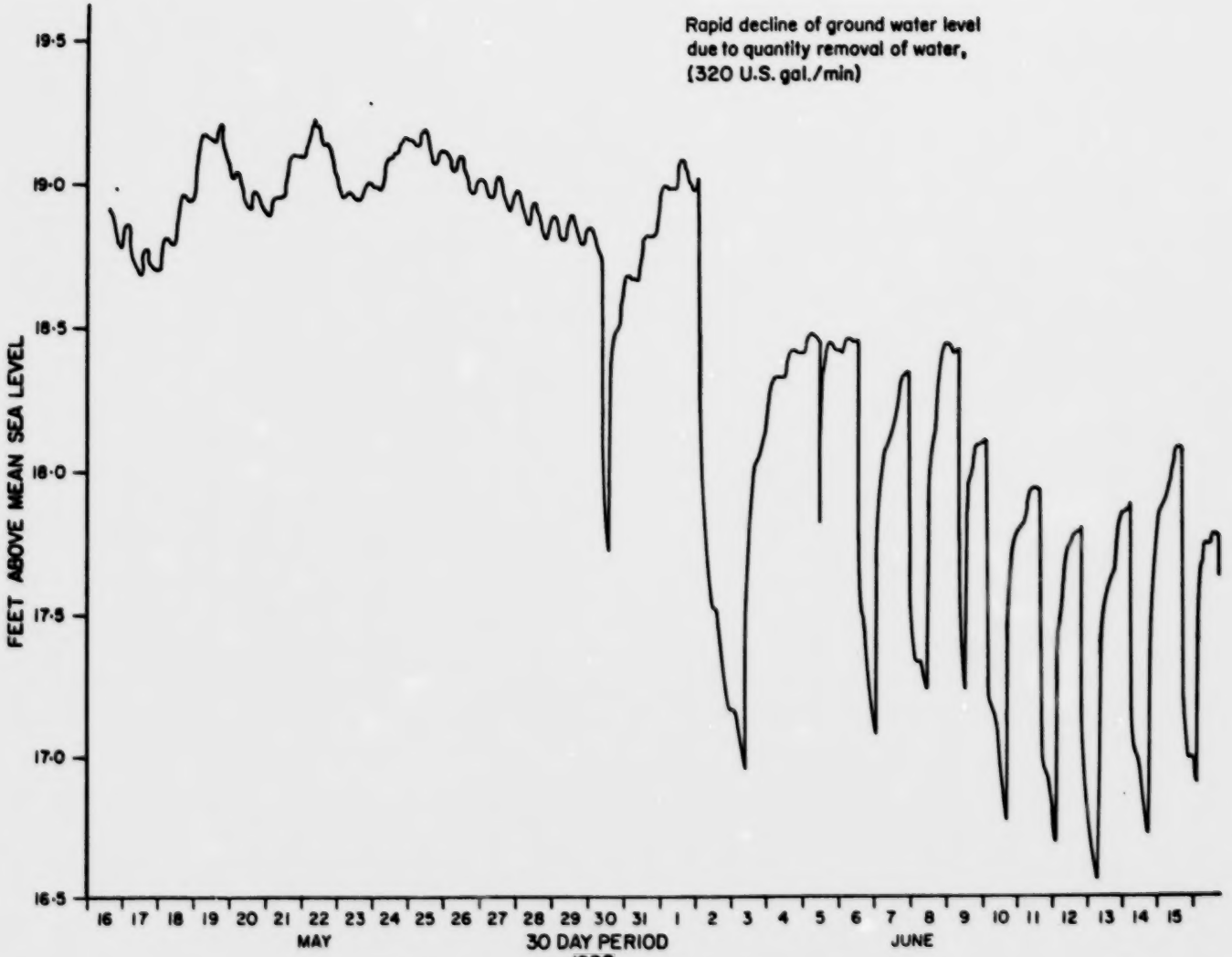
NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT GROUNDWATER OBSERVATION WELL 003

FIGURE - 3

Water Level Fluctuations Due to Water Removal From an Aquifer.

Water removal from an aquifer via a well results in the lowering of the water level in the well and the surrounding hydrostratigraphic unit. A drop in well water levels as a result of pumping is referred to as drawdown. The degree of drawdown is dependent upon the hydraulic characteristics of the aquifer and is an important factor in calculating the well's potential yield.

The hydrograph presented in Figure 4 illustrates the drawdown in a sand and gravel aquifer resulting from the removal of a quantity of water at the rate of 320 U.S. gal/min. by the pumping of a municipal water supply well 275 feet away. Also documented in Figure 4 is the rapid rise in the water level, the "recovery" of the well, as a result of the cessation of pumping. The rate of recovery is also an important factor in the analysis of the aquifer's hydraulics.


Rapid decline of ground water level
due to quantity removal of water,
(320 U.S. gal./min)
FEET ABOVE MEAN SEA LEVEL
19·5
19·0
18·5
18·0
17·5
17·0
16·5
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
MAY
30 DAY PERIOD
1980
JUNE

NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT
GROUNDWATER OBSERVATION WELL 009

FIGURE – 4

COLDBROOK - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 001

Map & File Number - 21-H-2-A-52-N
Nova Scotia Department of Mines Test Hole 1
Date Drilled: 1964, Nova Scotia Department of Mines Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Pump Test:		
	duration	48 hrs.
	date started	July 14, 1964
	pumping rate	400 igpm
	status	observation well
	transmissibility	T = 85,000 igpd/ft.
	storativity	$S = 2.21 \times 10^{-4}$

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 66.24 Feet Above Sea Level (A.S.L.).

Constructed in 1964, the specifications for test hole 1 were; well depth 93 feet, casing length 81 feet, casing diameter 4.5 inches, and a penetration of 7 feet of bedrock. Surficial geology of the area was classified as an esker deposit of the Pleistocene Epoch. Esker deposits of the area have been commonly characterized by well sorted sand and gravel beds due to alluvial influence.

A 48 hour pump test was conducted on a well situated in the Coldbrook sand and gravel aquifer. Water levels for test hole 1 were monitored during the pump test to aid in the evaluation of the aquifer. Analysis of the data collected from test hole 1 concluded values of 85,000 igpd/ft. for the coefficient of

transmissibility and 2.21×10^{-4} for the coefficient of storativity. Data from the pump test indicated a safe yield for one pumping well at 1,400 igpm. (Trescott, 1968).

Available water level records for test hole 1, February 1965 - 1981, record the high static water level, 49.90 ft. (A.S.L.), occurred on May 31, 1971 and the low static water level, 39.62 ft. (A.S.L.), occurred on November 28, 1965. The annual water table fluctuation varied from 3.77 feet (difference, average maximum - average minimum) to 10.28 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

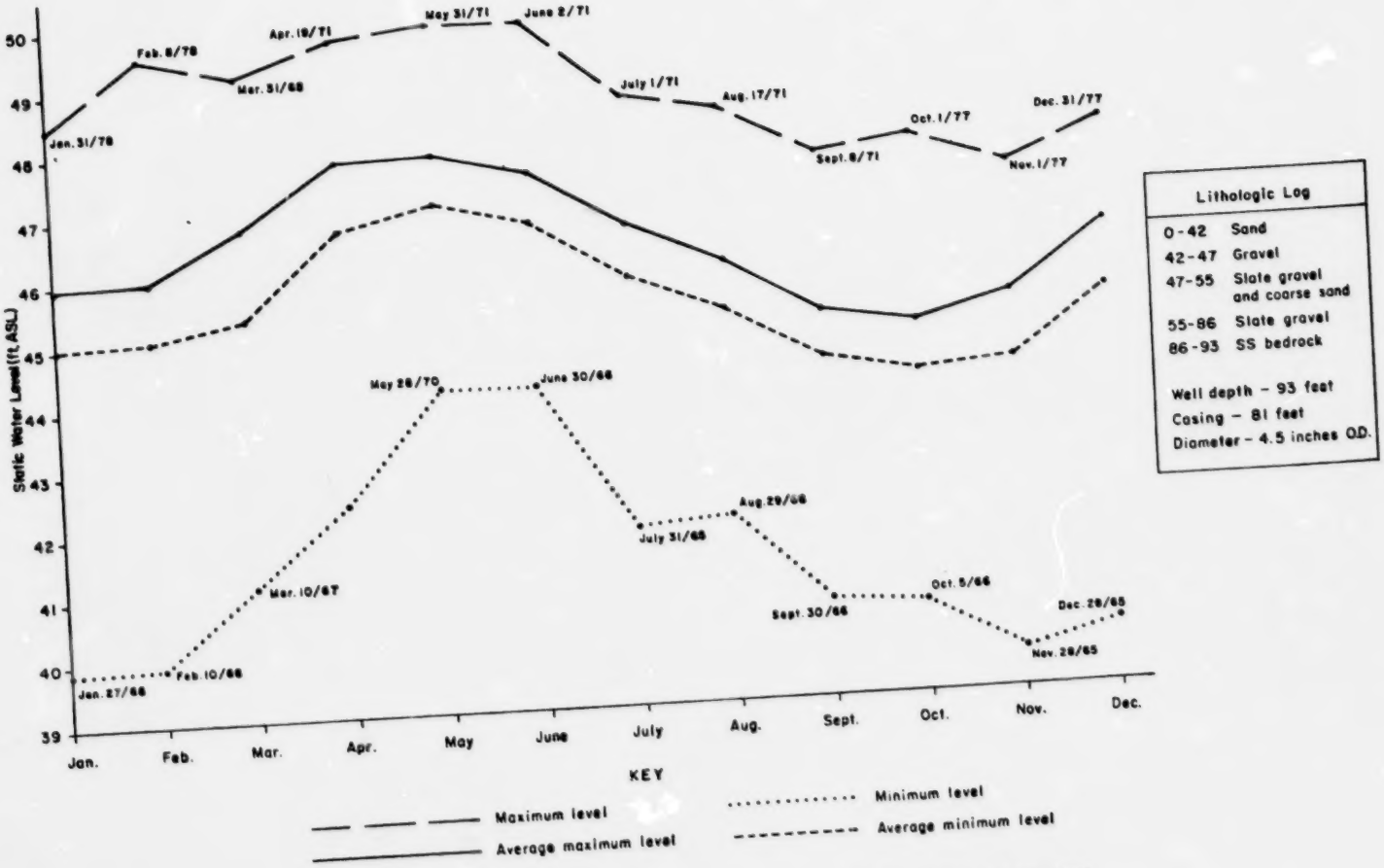
Missing Data Due To Malfunctions

1965	May High, Low; June High, Low; August High, Low.
1966	March High, Low; April High, Low.
1969	January High, Low; February High, Low; March High, Low; April High, Low.
1970	June High, Low; November High, Low; December High, Low.
1971	January High, Low; February High, Low; March High, Low; December High, Low.
1972	January High, Low.
1973	April High, Low.
1976	January High, Low.
1978	December High, Low.
1981	March High, Low; April High, Low; October High, Low.

COLDBROOK FEBRUARY 1965-1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	45.95	46.00	46.77	47.79	47.86	47.52	46.63	45.97	45.11	44.90	45.29	46.33
AV. MIN. LEVEL	45.01	45.04	45.34	46.70	47.07	46.73	45.77	45.21	44.39	44.09	44.22	45.27
MAX. LEVEL	49.48	49.52	49.18	49.70	49.90	49.88	48.65	48.40	47.58	47.82	47.32	47.98
MIN. LEVEL	39.87	39.90	41.13	42.38	44.15	44.15	41.83	41.95	40.53	40.48	39.62	40.00
Dates												
MAX. LEVEL	31/78	8/78	31/68	19/71	31/71	2/71	1/71	17/71	8/71	1/77	1/77	31/77
MIN. LEVEL	27/66	10/66	10/67	1/67	28/70	30/66	31/65	29/66	30/66	5/66	28/65	28/65



COLDBROOK - N.S.D.O.E. OBSERVATION WELL 001, FEBRUARY 1965-1981

TRURO - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 002

Map & File Number - 11-E-6-B-97-0
Nova Scotia Department of Mines Test Hole 299
Date Drilled: May 21, 1965, Nova Scotia Department of Mines, Rig Number 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1972.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 117.30 feet above sea level (A.S.L.)

Constructed in May, 1965, the specifications for test hole 299 were; well depth 679 feet, casing length 63.5 feet, casing diameter 4.5 inches, and a penetration of 647 feet of bedrock. Surficial geology of the area was described as a sandy till of the Pleistocene Epoch. Underlying bedrock has been classified as the Wolfville Formation of the Triassic Period. The Wolfville Formation consisted mainly of interbedded roundstone and sharpstone conglomerate and coarse and medium grained sandstones, (Hennigar, 1972).

Pump test analysis from a 298 foot deep well belonging to the Nova Scotia Agricultural College, W58, situated in close proximity and similar bedrock formation to that of test hole 299 stated values of 6.8×10^2 igpd/ft. for the coefficient of transmissibility, 0.4 x 10 igpd/sq. ft., for the coefficient of permeability and a twenty year safe pumping rate of 55 igpm.(Hennigar, 1972). Movement of water through the formation's sandstone and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Water level fluctuations for test hole 299 have been recorded for 16 years, 1966 - 1981. The recorded high static water level, 97.12 feet (A.S.L.), occurred on May 30, 1967. The recorded low static water level, 83.17 feet (A.S.L.), occurred on October 25, 1976. The annual water table fluctuation varied from 5.91 feet (difference, average maximum - average minimum) to 13.95 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

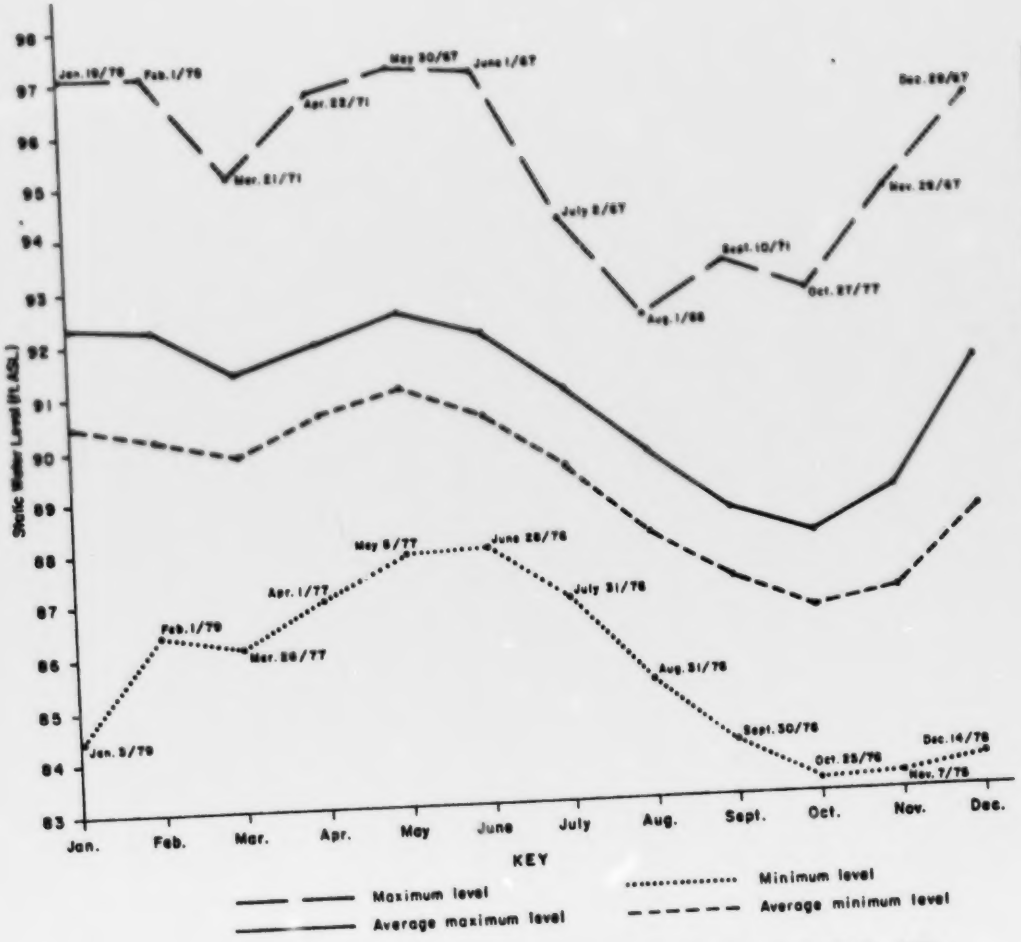
Missing Data Due To Malfunctions

1967	April High, Low
1972	November High, Low; December High, Low
1981	January High, Low; April High; May High, Low; September High, Low.

TRURO 1966 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	92.33	92.20	91.40	91.93	92.49	91.99	90.93	89.64	88.49	87.96	88.84	91.22
AV. MIN. LEVEL	90.45	90.17	89.84	90.58	91.02	90.45	89.45	88.09	87.16	86.58	86.87	88.39
MAX. LEVEL	97.08	97.08	95.12	96.73	97.12	97.01	94.13	92.23	93.18	92.60	94.50	96.20
MIN. LEVEL	84.43	86.42	86.12	87.00	87.84	87.89	86.83	85.29	84.08	83.17	83.27	83.56
Dates												
MAX. LEVEL	19/78	1/78	21/71	22/71	30/67	1/67	2/67	1/66	10/71	27/77	28/67	29/67
MIN. LEVEL	3/79	1/79	26/77	1/77	5/77	28/76	31/76	31/76	30/76	25/76	7/75	14/78



Lithologic Log	
0 - 32	Red clay
32 - 190	Shale
190 - 196	SS
196 - 206	SS and Shale
206 - 215	SS
215 - 220	SS and Shale
220 - 291	SS
291 - 457	Shale
457 - 469	SS
469 - 480	Siltstone
480 - 490	Shale
490 - 544	Greywacke
544 - 565	Siltstone and Shale
565 - 578	Greywacke
578 - 679	Siltstone

Well depth 679 feet
Casing length 63.5 feet
Casing diameter 4-5 inches O.D

TRURO-N.S.D.O.E. OBSERVATION WELL 002, 1966-1981

GREENWOOD - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 003

Map & File Number - 21-H-2-B-7-M
Nova Scotia Department of Mines Test Hole 88
Date Drilled: June 20, 1966, N.S. Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 94.88 feet above sea level (A.S.L.)

Constructed in June, 1966, the specifications for test hole 88 were; well depth 25 feet, casing length 21.5 feet, and casing diameter 4.5 inches. The well log for test hole 88 indicated a surficial geology classified as an outwash plain of the Pleistocene Epoch. The deposit was characterized as having well stratified and cross-bedded fine to coarse sand.

A 144 hour pump test conducted on a nearby well field situated in a similar unit produced results which concluded the average value for transmissibility 35,000 igpd/ft., permeability 2,000 igpd/sq. ft., and storativity 3.6 X 10^{-2}, (Trescott, 1968).

Water level fluctuation for test hole 88 have been monitored for 15 years, 1967 - 1981. During the period of observation the recorded high, 93.68 ft (A.S.L.), occurred on June 14, 1968, and the recorded low, 89.16 ft. (A.S.L.) occurred on September 27, 1970. The annual water table fluctuation varied from 2.39 feet (difference, average maximum - average minimum) to 4.52 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Well System.

Greenwood

Missing Data Due To Malfunctions.

1967 January high, low; February high, low; March high,; April high
1968 September high, low
1970 March high, low; April high, low; June high, low; December high, low
1971 January high, low
1972 January high, low; February high, low; March high, low; April high, low; November high, low; December high, low
1973 January high, low; February high, low
1979 February high, low; July high, low; December high, low
1980 September high, low; December high, low
1981 March high, low; April high, low; September high, low

GREENWOOD - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 003

Map & File Number - 21-H-2-B-7-M
Nova Scotia Department of Mines Test Hole 88
Date Drilled: June 20, 1966, N.S. Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 94.88 feet above sea level (A.S.L.)

Constructed in June, 1966, the specifications for test hole 88 were; well depth 25 feet, casing length 21.5 feet, and casing diameter 4.5 inches. The well log for test hole 88 indicated a surficial geology classified as an outwash plain of the Pleistocene Epoch. The deposit was characterized as having well stratified and cross-bedded fine to coarse sand.

A 144 hour pump test conducted on a nearby well field situated in a similar unit produced results which concluded the average value for transmissibility 35,000 igpd/ft., permeability 2,000 igpd/sq. ft., and storativity 3.6 X 10^{-2}, (Trescott, 1968).

Water level fluctuation for test hole 88 have been monitored for 15 years, 1967 - 1981. During the period of observation the recorded high, 93.68 ft (A.S.L.), occurred on June 14, 1968, and the recorded low, 89.16 ft. (A.S.L.) occurred on September 27, 1970. The annual water table fluctuation varied from 2.39 feet (difference, average maximum - average minimum) to 4.52 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Well System.

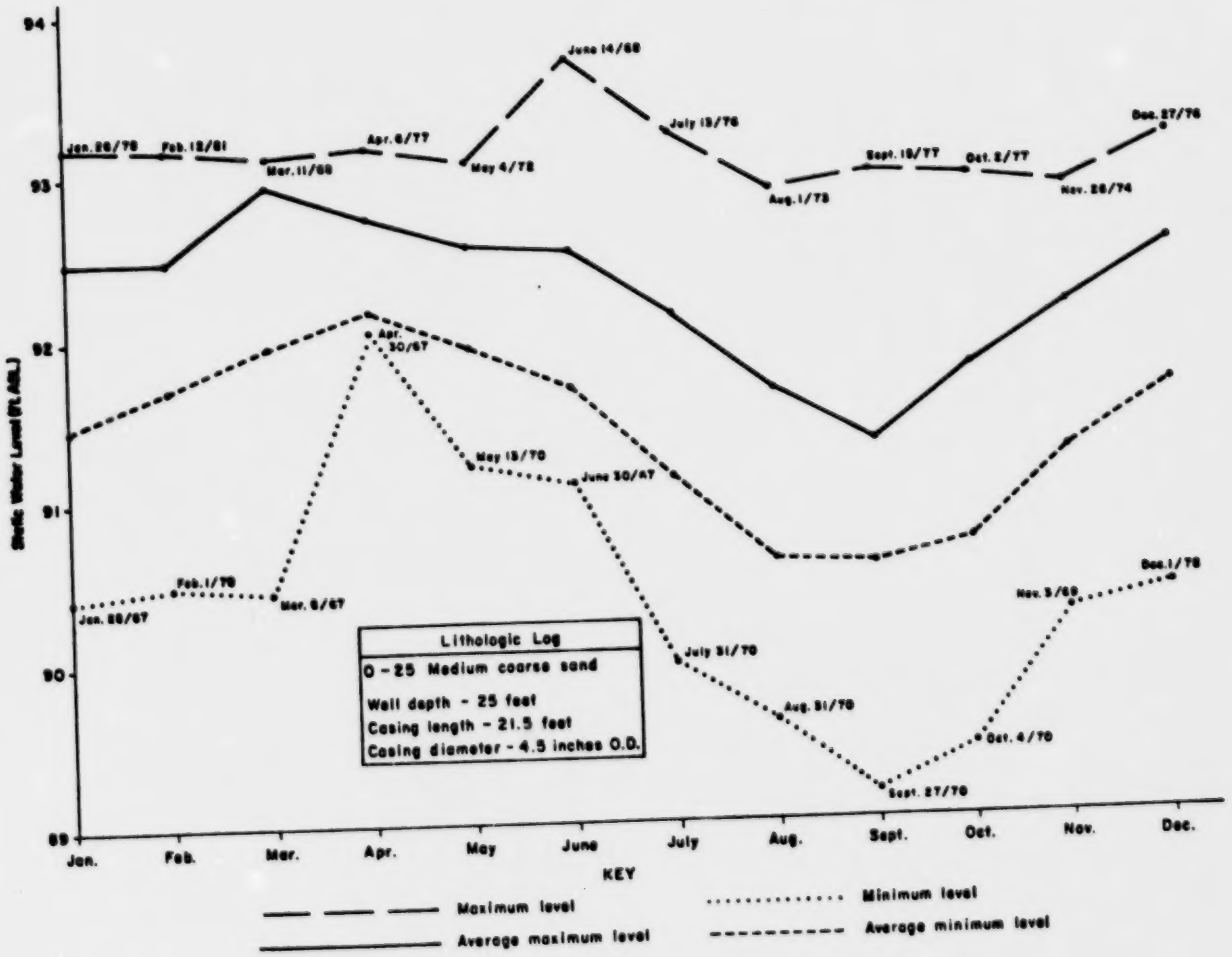
Greenwood

Missing Data Due To Malfunctions.

1967 January high, low; February high, low; March high,; April high
1968 September high, low
1970 March high, low; April high, low; June high, low; December high, low
1971 January high, low
1972 January high, low; February high, low; March high, low; April high, low; November high, low; December high, low
1973 January high, low; February high, low
1979 February high, low; July high, low; December high, low
1980 September high, low; December high, low
1981 March high, low; April high, low; September high, low

GREENWOOD 1967 - 1981
STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	92.48	92.48	92.94	92.73	92.55	92.50	92.11	91.64	91.31	91.76	92.13	92.49
AV. MIN. LEVEL	91.46	91.70	91.95	92.16	91.93	91.67	91.11	90.59	90.55	90.69	91.23	91.62
MAX. LEVEL	93.18	93.16	93.11	93.16	93.07	93.68	93.22	92.87	92.96	92.93	92.86	93.14
MIN. LEVEL	90.41	90.48	90.44	92.03	91.20	91.08	89.98	89.60	89.16	89.42	90.24	90.37
Dates												
MAX. LEVEL	26/78	12/81	11/68	6/77	4/72	14/68	13/76	1/73	15/77	2/77	26/74	27/76
MIN. LEVEL	28/67	1/70	8/67	30/67	13/70	30/67	31/70	31/70		27/70	4/70	3/69
1/78												



GREENWOOD - N.S.D.O.E. OBSERVATION WELL 003, 1967 - 1981

FRASER BROOK - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 004

Map & File Number - 11-E-6-A-81-J
Nova Scotia Department of Mines Test Hole 100
Date Drilled: July 19, 1966, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed for study under the International Hydrologic Decade Programme in Nova Scotia. Reported in "Superficial Geology I.H.D. Watershed, Fraser Brook, Colchester County" by Terry W. Hennigar, 1966.

Pump Test:		
	duration	24 hr.
	date started	August 9, 1966
	pumping rate	5 igpm
	status	pumping well
	transmissibility	T = 320 igpd/ft.
	safe yield	Q_s = 6.5 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground level elevation 342.42 feet above sea level (A.S.L.)

Constructed in July 1966, test hole 100 was one in a series of test wells positioned within the Fraser Brook watershed basin. The test wells were a phase of the International Hydrologic Decade Programme concerned with the relationships of the parameters of the hydrologic cycle as influenced by a maritime climate.

Surficial geology of the area was classified as a stream alluvium deposit of the Quaternary Period (Hennigar, 1972). Underlying bedrock, Canso Group of the Mississippian period was characterized by red and grey sandstone, and shale (Stevenson, 1958).

A 24 hour pump test conducted on test hole 100 stated values of 320 igpd/ft. for the coefficient of transmissibility, and the safe yield as 6.5 igpm. Permeability in the Canso group of sediments was described as being of the secondary type resulting from mainly fault planes and joint systems. (Hennigar, 1972).

Water level fluctuations for test hole 100 have been recorded for 14 years, 1967-1974, 1976-1981. The recorded high static water level, 335.94 ft. (A.S.L.), occurred on May 14, 1980. The recorded low static water level, 331.08 ft. (A.S.L.), occurred on September 4,1969. The annual water table fluctuation varied from 2.32 feet (difference, average maximum - average minimum) to 4.86 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

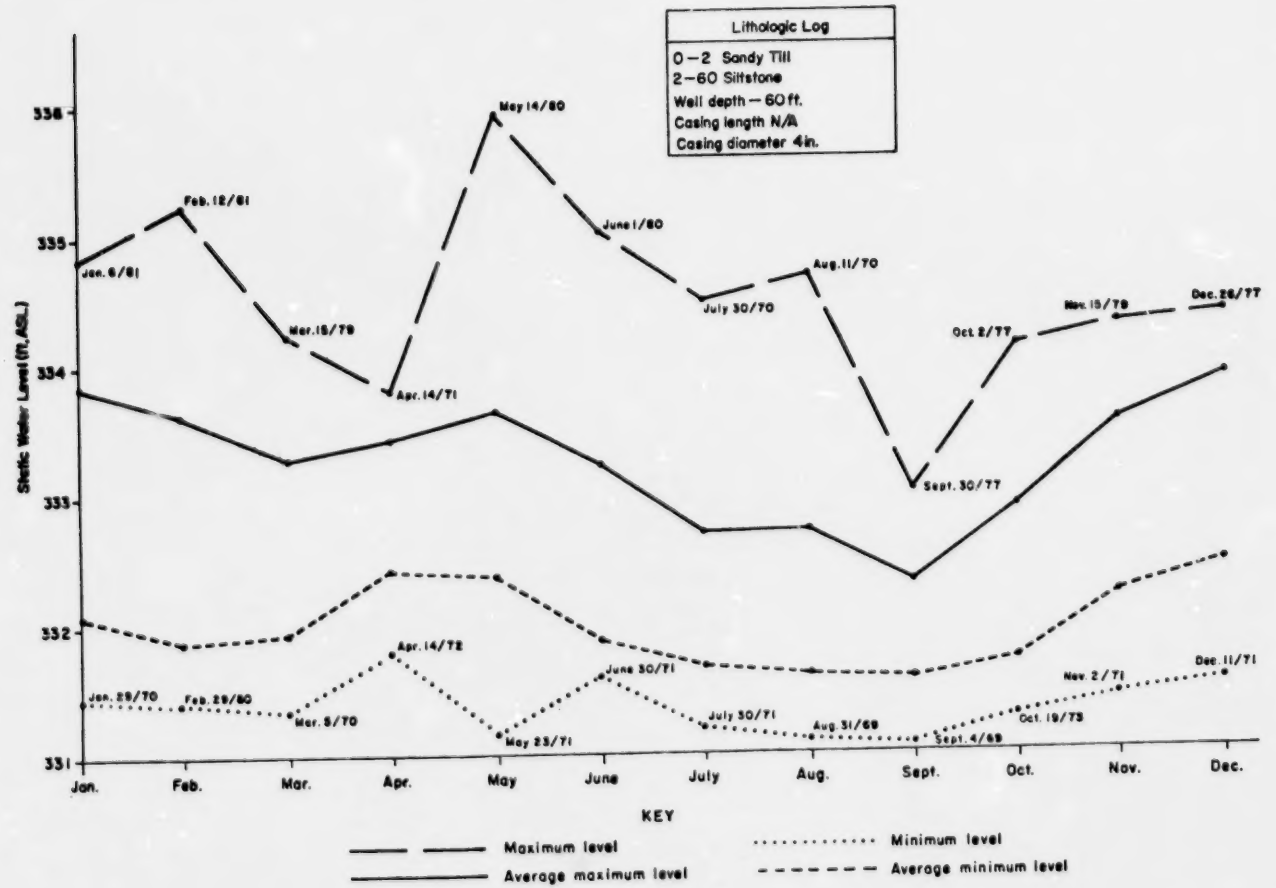
Missing Data Due To Malfunctions

1967	January High, Low; February High, Low.
1969	April High, Low.
1973	September High, Low.
1974	December Low.
1976	October High, Low.
1977	February High, Low.
1981	April High, Low; May High, Low.

FRASER BROOK 1967-1974, 1976-1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	333.82	333.61	333.28	333.42	333.66	333.24	332.70	332.72	332.35	332.92	333.56	333.90
AV. MIN. LEVEL	332.06	331.87	331.93	332.42	332.37	331.89	331.67	331.62	331.58	331.73	333.23	332.46
MAX. LEVEL	334.81	335.21	334.22	333.82	335.94	335.03	334.49	334.70	333.03	334.15	334.30	334.38
MIN. LEVEL	33[illegible].44	331.40	331.35	331.78	331.14	331.61	331.20	331.10	331.08	331.30	331.44	331.56
Dates												
MAX. LEVEL	6/81	12/81	15/79	14/71	14/80	1/80	30/70	11/70	30/77	2/77	15/79	26/77
MIN. LEVEL	29/70	29/80	5/70	14/72	23/71	30/71	30/71	31/69	4/69	19/73	2/71	11/71



FRASER BROOK-N.S.D.O.E. OBSERVATION WELL 004, 1967-1974, 1976-1981

WILMOT - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 005

Map & File Number - 21-A-14-D-71-G
Nova Scotia Department of Mines Test Hole 51
Date Drilled: May 18, 1966, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Monitoring Equipment: Stevens Type F Recorder, Model 68.
Ground Level Elevation 43.94 feet above sea level (A.S.L.)

Constructed in May, 1966, the specifications for test hole 51 were; well depth 60 feet, casing length 21 feet, and casing diameter 4.5 inches. The surficial geology of the area was classified as a stream alluvium deposit of the Quaternary Period. The alluvium deposit consisted of several feet of clay overlying a fine to coarse gravel deposit. A 26 hour pump test conducted on a nearby well field situated in a similar unit, test holes 80-86, produced results which concluded the average value for transmissilibity 50,000 igpd/ft., permeability 2,000 igpd/ft sq. ft. and storativity 1.9×10^{-3} (Trescott, 1968).

During the fifteen years, 1967 - 1981, of monitoring the water level in test hole 51; the recorded high, 42.24 ft. (A.S.L.), occurred January 19, 1978, and the recorded low 35.09 ft. (A.S.L.), occurred October 20, 1969. The annual water table fluctuation varied from 5.20 feet (difference, average maximum - average minimum) to 7.15 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

Wilmot

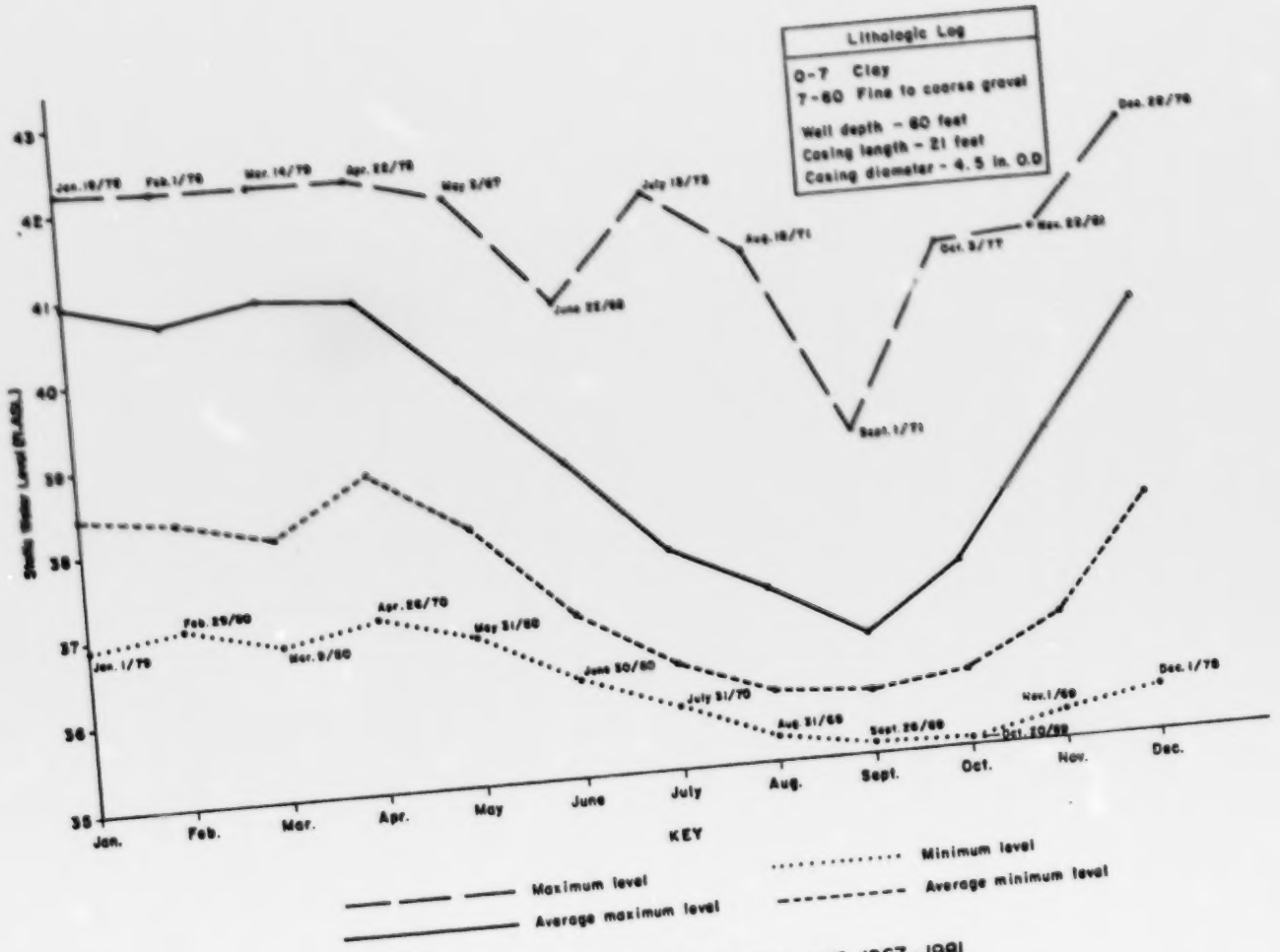
Missing Data Due to Malfunctions

1967	January high, low; April low.
1968	February high, low; March high, low; August high, low; September high, low.
1969	December high, low.
1970	January high, low: February high, low; March high, low.
1971	February high, low
1972	January high, low.
1973	March low; December high, low.
1975	June high, low; September high, low.
1977	September high, low.
1978	April high, low; May high, low; June high, low; July high, low; August high, low; September high, low; October high, low.
1980	September high, low; October high, low.
1981	March high, low; April high, low; September high, low; October high, low.

WILMOT 1967 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	40.95	40.65	40.87	40.76	39.76	38.71	37.58	37.04	36.41	37.19	38.65	40.07
AV. MIN. LEVEL	38.47	38.34	38.09	38.74	38.00	36.90	36.25	35.82	35.75	35.86	36.48	37.78
MAX. LEVEL	42.24	42.21	42.20	42.20	41.90	40.57	41.76	41.00	38.80	40.93	41.00	42.19
MIN. LEVEL	36.92	37.07	36.80	37.00	36.73	36.14	35.75	35.30	35.13	35.09	35.32	35.52
Dates												
MAX. LEVEL	19/78	1/76	14/79	22/75	3/67	22/68	13/73	16/71	1/71	3/77	23/81	28/76
MIN. LEVEL	1/79	29/80	9/80	26/70	31/80	30/80	31/70	31/69	26/69	20/69	1/69	1/78



WILMOT-N.S.D.O.E. OBSERVATION WELL 005, 1967-1981

AMHERST - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 006

Map & File Number - 21-H-16-A-62-B
Nova Scotia Department of Mines Test Hole 139
Date Drilled: January 25, 1967, Nova Scotia Department of Mines, Rig No. 53

Purpose: To monitor groundwater levels affected by the Town of Amherst water supply well system. The system is dependent upon several drilled wells as a supply source with the closest well approximately 1250 feet from the observation well.

Pump Test:		
	duration	53 hr.
	date started	March 29, 1967
	pumping rate	105 igpm
	status	pumping well
	transmissibility	T = 550 igpd/ft.
	safe yield	Q_s = 20.8 igpm per 100 ft. of saturated thickness

Monitoring Equipment: Stevens Type F Recorder, Model 68
Elevation of datum point (top of casing) 60.35 feet above sea level (A.S.L.)

Constructed in January, 1967, the specifications for test hole 139 were; well depth of 700 feet, casing length 45 feet, casing diameter 6 inches, and a penetration of 697 feet of bedrock. The surficial geology of the area classified as a sandy till of the Pleistocene Epoch. Underlying bedrock, Pictou Group of the Pennsylvanian Period, consisted of reddish brown, soft micaceous sandstones, and arkosic grits alternating with zones of red shales and/or muclstones, and occasional red and grey mottled sandstones.(Vaughan and Somers, 1980).

Monitoring data from a 53 hour pump test conducted on test hole 139 produced values of 550 igpd/ft. for transmissibility and 20.8 igpm per 100 feet of saturated thickness for the safe yield rate. Water movement through the Pictou Group was primarily through joints and bedding planes, although it was suspected that some flow was intergranular.

Monitoring equipment for test hole 139 was operative for over 13 years, July 1967-1980. During the period of observation the recorded high, 47.80 ft. (A.S.L.), occurred on April 22, 1971 and the recorded low, 29.47 ft. (A.S.L.), occurred on October 17, 1975. The annual water table fluctuation varied from 7.65 feet (difference, average maximum-average minimum) to 18.33 feet (difference, absolute maximum-absolute minimum).

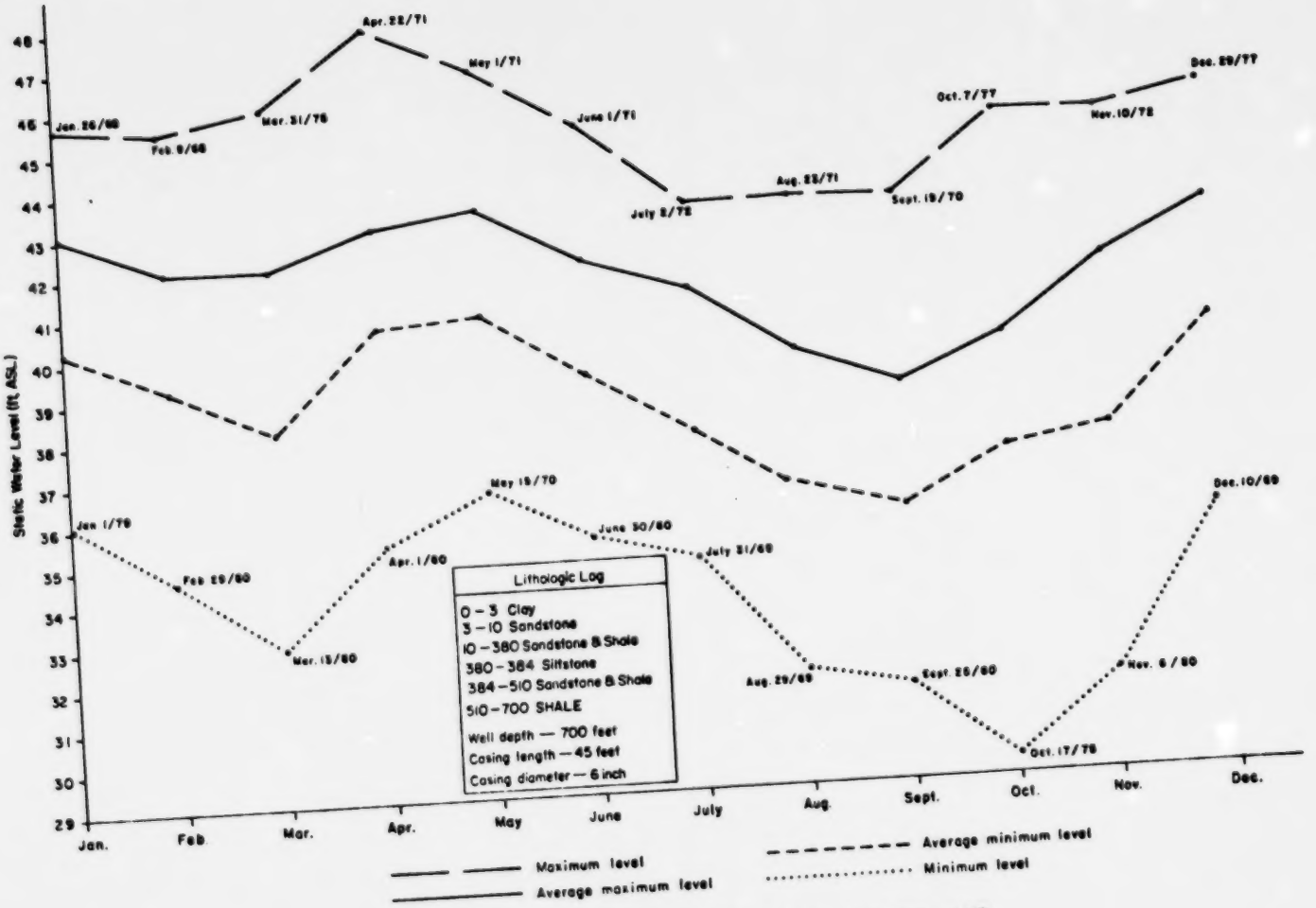
Missing Data Due To Technical Malfunctions

1968 June high, low; July high, low; October high, low.
1970 August high, low; November high, low; December high, low.
1971 January high, low; February high, low; March high, low; September high, low; October high, low; November high, low; December high, low.
1972 January high, low; February high, low; March high, low; April high, low; May high, low; June high, low; December high, low.
1973 July high, low.
1977 January high, low.

AMHERST JULY 1967-1980

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	43.11	42.11	42.07	42.97	43.38	41.97	41.20	39.61	38.72	39.75	41.59	42.86
AV. MIN. LEVEL	40.29	39.22	38.14	40.58	40.82	39.24	37.77	36.50	35.73	37.03	37.43	39.95
MAX. LEVEL	45.73	45.49	46.03	47.80	46.70	45.34	43.40	43.45	43.40	45.23	45.12	45.73
MIN.LEVEL	36.09	34.60	32.85	35.25	36.57	35.56	34.69	31.80	31.31	29.47	31.44	35.45
Dates												
MAX. LEVEL	26/68	9/68	31/75	22/71	1/71	1/71	2/72	23/71	19/70	7/77	10/72	29/77
MIN. LEVEL	1/79	29/80	13/80	1/80	15/70	30/80	31/69	29/69	25/80	17/75	6/80	10/69



AMHERST-N.S.D.O.E. OBSERVATION WELL 006, JULY 1967-1980

MURRAY SIDING - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 007

Map & File Number - 11-E-6-A-107-K
Nova Scotia Department of Mines Test Hole 191
Date Drilled: August 2, 1967, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1972.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 81.32 feet above sea level (A.S.L.).

Constructed in August, 1967, specifications for test hole 191 were; well depth 30 feet, casing diameter 4.5 inches, and a penetration of 4 feet of bedrock. Surficial geology of the area classified as a stream alluvium of the Quaternary Period. The deposit consisted of an upper layer of silt and sand overlying buried channels filled with outwash sands and gravel. Underlying bedrock, Wolfville Formation of the Triassic Period, is characterized by interbedded roundstone and sharpstone conglomerate and coarse and medium grained sandstone (Hennigar, 1972).

Test hole 191 was one of three test holes used as an observation well during the 80 hour pump test conducted on test hole 368 (r = 315'). Pump test data stated values of 45,000 igpd/ft. for transmissibility, 8.7×10^{-2} for the coefficient of storage and 2500 igpd/sq.ft. for the average coefficient of permeability (Hennigar, 1972). The pump test conducted on test hole 368 was for analysis of the sand and gravel aquifer adjacent to the Salmon River.

During the 12 years of monitoring static water levels for test hole 191, 1968-1970, 1972, 1974-1981, the recorded high, 75.50 ft. (A.S.L.) occurred on May 31, 1974, and the recorded low, 69.24 ft. (A.S.L.), occurred on September 14, 1980. The annual water table fluctuation varied from 3.11 feet (difference, average maximum-average minimum), to 6.26 feet (difference, absolute maximum-absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

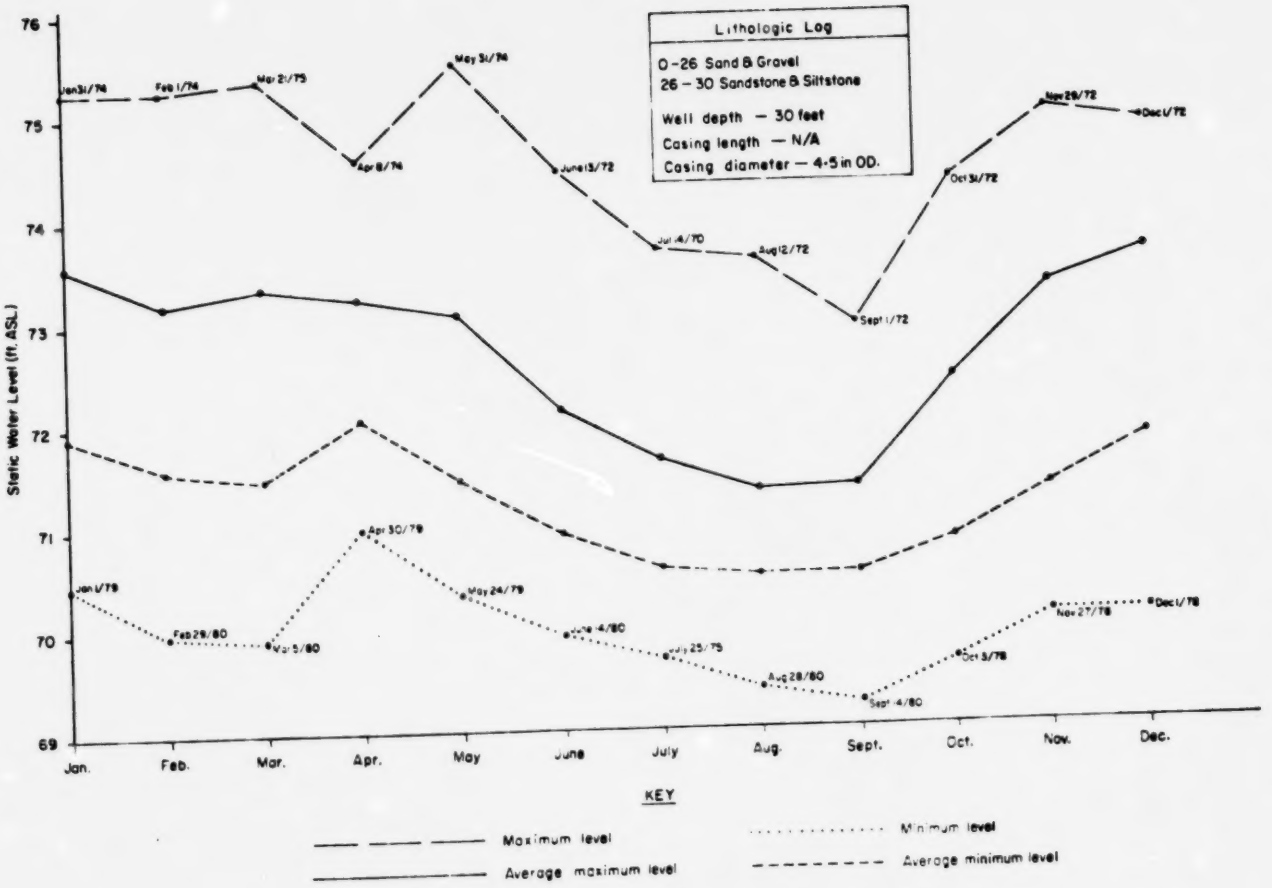
Missing Data Due to Malfunctions

1969	December High, Low
1970	November High, Low; December High, Low
1972	April High, Low
1980	November High; December High, Low
1981	January High, Low; February High, Low; March High, Low; April High, Low; May High, Low; June High, Low; August High, Low; September High, Low; October High, Low; November High, Low; December High, Low.

MURRAY SIDING 1968-1970, 1972, 1974-1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	73.58	73.19	73.33	73.22	73.08	72.13	71.64	71.32	71.36	72.38	73.27	73.60
AV. MIN. LEVEL	71.92	71.58	71.48	72.05	71.45	70.93	70.57	70.49	70.50	70.82	71.31	71.79
MAX. LEVEL	75.26	75.26	75.35	74.58	75.50	74.44	73.67	73.57	72.92	74.32	74.98	74.84
MIN. LEVEL	70.49	69.98	69.91	70.99	70.34	69.93	69.68	69.37	69.24	69.63	70.07	70.07
Dates												
MAX. LEVEL	31/74	1/74	21/75	8/74	31/74	13/72	14/70	12/72	1/72	31/72	29/72	1/72
MIN. LEVEL	1/79	29/80	5/80	30/79	24/79	14/80	25/75	28/80	14/80	3/78	27/78	1/78



MURRAY SIDING-N.S.D.O.E. OBSERVATION WELL 007, 1968-1970, 1972, 1974-1981

GILLISDALE - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 008

Map & File Number - 11-K-3-D-90-M
Nova Scotia Department of Mines Test Hole 377
Date Drilled: 1968

Purpose: Constructed for study under the International Hydrologic Decade Programme in Nova Scotia. Preliminary report "Geology of the April Brook Basin" by George F. Pinder, 1966.

Monitoring Equipment: Stevens Type F. Recorder, Model 68

Elevation of Datum Point (top of casing) 170.46 feet above sea level (A.S.L.)

Constructed in 1968, test hole 377 was one in a series of test wells positioned within the Aril Brook watershed Basin. The test wells were a phase of the International Hydrologic Decade Programme concerned with the relationships of the parameters of the hydrological cycle as influenced by a maritime climate.

Surficial geology of the area was described as a sandy glacial till of the Pleistocene Epoch varying in thickness of only a few feet, highland areas, to a maximum of thirty feet, central region. Underlying bedrock consisted of three Mississippian age formations; the Canso Group was essentially shale and sandstone, the Windsor Group-gpysum and limestone, and the Horton Group consisted mainly of siltstone, shale, and sandstones. A 72 hour pump test conducted on test hole 187, r = 500 ft., concluded values of 1185 igpd/ft. for the coefficient of transmissibility and a safe pumping rate of 20 igpm.

The daily groundwater level fluctuations for test hole 377 have been recorded for over 10 years, 1969 - August, 1979. During the period of observation, the recorded high 168.38 ft. (A.S.L.) occurred on February 4, 1970, and the recorded low 164.63 ft. (A.S.L.) occurred on August 21, 1975. The annual water table fluctuation varied from 2.55 feet (difference, average maximum-average minimum) to 3.75 feet (difference, absolute maximum- absolute minimum).

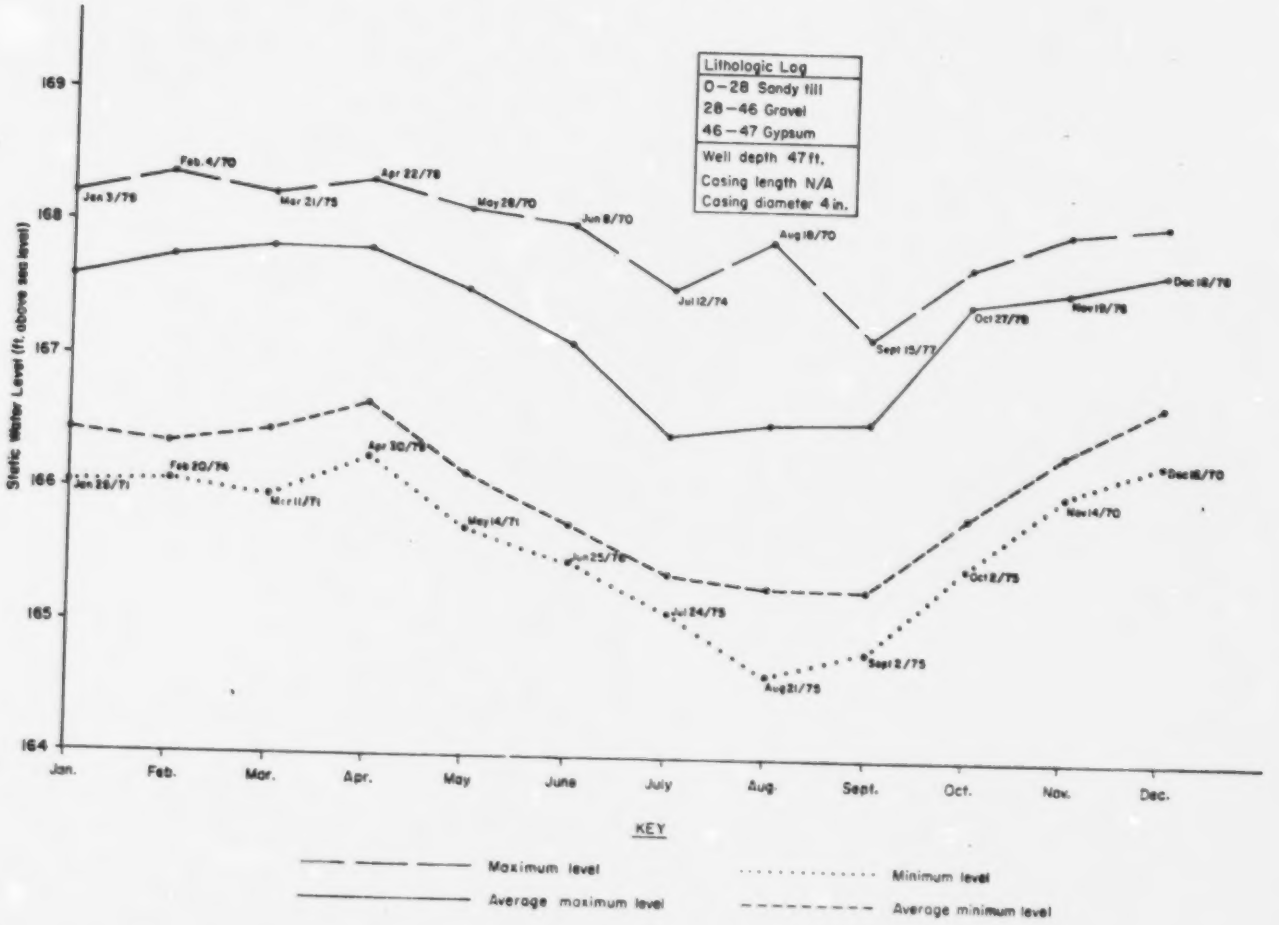
Missing Data Due to Malfunctions

1969	October High, Low
1970	July High, Low; August High, Low; September High, Low
1971	June High, Low; October High, Low; November High, Low
1972	January High, Low; March High, Low; April High, Low; May High, Low; June High, Low; October High, Low
1974	August High, Low; September High, Low
1977	December High
1978	January High, Low; February High, Low; March High, Low

GILLISDALE AUGUST 1969-1979

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	167.59	167.76	167.83	167.82	167.52	167.13	166.46	166.53	166.56	167.45	167.55	167.71
AV. MIN. LEVEL	166.45	166.37	166.45	166.67	166.13	165.76	165.39	165.30	165.28	165.85	166.32	166.70
MAX. LEVEL	168.21	168.38	168.22	168.33	168.13	168.02	167.56	167.92	167.20	167.74	168.00	168.08
MIN. LEVEL	166.02	166.06	165.97	166.24	165.72	165.48	165.08	164.63	164.81	165.46	166.02	166.26
Dates												
MAX. LEVEL	3/79	4/70	21/75	22/78	28/70	8/70	12/74	18/77	15/77	27/78	19/76	18/78
MIN. LEVEL	25/71	20/74	11/71	30/79	14/71	25/76	24/75	21/75	2/75	2/75	14/70	18/70



GILLISDALE–N.S.D.O.E. OBSERVATION WELL 008, 1969–AUGUST 1974.

WOLFVILLE 1 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 009

Map & File Number - 21-H-1-B-78-E
Nova Scotia Department of Mines Test Hole 397
Date Drilled: December 10, 1968, Nova Scotia Department of Mines, Rig No. 79

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott., 1969.

Pump Test:		
	duration	29 days
	date started	July 23, 1969
	pumping Rate	254 igpm
	status	observation well
	transmissibility	T = 51,188 igpd/ft.
	storativity	$S = 8. \times 10^{-2}$

Monitoring Equipment: Stevens Type F Recorder, Model 68.
Ground Level Elevation 29.00 feet above sea level (A.S.L.)

Constructed in December, 1968,the specifications for test hole 397 were; well depth 138 feet, casing length 89 feet, casing diameter 4.5 inches, and a penetration of 15 feet of bedrock. Surficial geology of the area was classified as a kame complex deposit of the Pleistocene Epoch. The kame complex underlying the Wolfville area consisted of material ranging from fine sand to boulders in sorted beds. Underlying bedrock of the area consisted of pre-Mississippian slate, and Mississippian and Triassic sandstones and shales.

In order to determine the potential of the sand and gravel aquifer underlying the Wolfville area as a possible water supply source for the municipality, several pump tests were conducted on supply wells owned by the Town of

Wolfville. During one of the pump tests, July 23 to August 19, 1969, the water level drawdown for test hole 397 was monitored to aid in the evaluation of the aquifer. Data collected during that test indicated a value of 51,188 igpd/ft. for the coefficient of transmissibility and 8×10^{-2} for the coefficient of storativity (Trescott, 1969).

Static water level fluctuations for test hole 397 have been recorded for 12 years, 1970-1981. During the period of observation the recorded high, 19.90 ft. (A.S.L.), occurred on April 22, 1971 and the recorded low, 12.99 ft. (A.S.L.), occurred on November 13, 1981. The annual water table fluctuation varied from 5.01 feet (difference, average maximum - average minimum) to 6.91 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

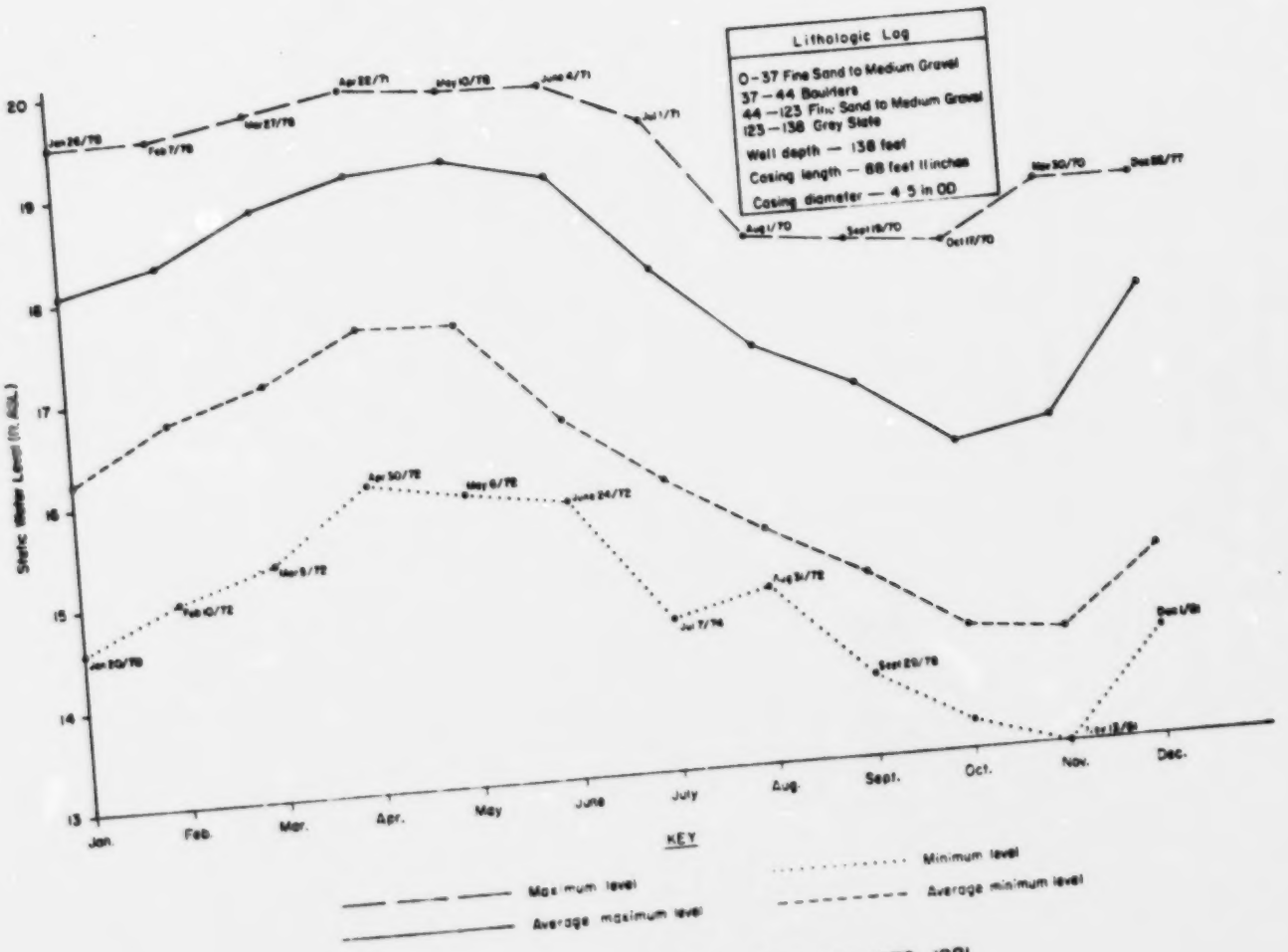
Missing Data Due to Malfunctions

1970	June high, low; December high, low
1971	January high, low; August high, low; November high, low; December high, low.
1972	January high, low.
1979	March high, low.
1981	January high, low; February high, low; March high, low; April high, low; May high, low; June high, low; July high, low; August high, low; September high, low; October high, low.

WOLFVILLE 1 1970 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	18.07	18.30	18.78	19.07	19.14	18.91	17.93	17.11	16.67	16.03	16.21	17.43
AV. MIN. LEVEL	16.24	16.76	17.08	17.57	17.54	16.53	15.88	15.31	14.81	14.21	14.13	14.88
MAX. LEVEL	19.52	19.53	19.73	19.90	19.83	19.80	19.38	18.17	18.08	18.00	18.52	18.52
MIN. LEVEL	14.58	15.01	15.32	16.04	15.87	15.74	14.50	14.75	13.81	13.28	12.99	14.05
Dates												
MAX. LEVEL	26/78	7/78	27/78	22/71	10/78	4/71	1/71	1/70	19/70	17/70	30/70	26/77
MIN. LEVEL	20/70	10/72	5/72	30/72	6/72	29/72	7/74	31/72	29/78	17/78	13/81	1/81



WOLFVILLE I - N.S.D.O.E. OBSERVATION WELL 009, 1970 – 1981

WOLFVILLE 2 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 010

Map & File Number - 21-H-1-B-78-K
Nova Scotia Department of Mines Test Hole 398
Date Drilled: December 17, 1968, Nova Scotia Department of Mines Rig No. 79

Purpose: Constructed to aid in the evaluation of the occurrence, quality and quantity of groundwater as reported by Peter C. Trescott, 1969.

Pump Test:		
	duration	29 days
	date started	July 23, 1969
	pumping rate	254 igpm
	status	observation well
	transmissibility	T = 46,567 igpd/ft
	storativity	$S = 3 \times 10^{-2}$

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground level elevation 27.82 feet above sea level (A.S.L.)

Constructed in December 1968, the specifications for test hole 398 were; well depth 58 feet, casing diameter 4.5 inches, and a penetration of 23 feet of bedrock. Surficial geology of the area was classified as a kame complex deposit of the Pleistocene Epoch. The deposit consisted primarily of a clay till with lenses of sand and gravel. Underlying bedrock of the area consisted of pre-Mississippian slate, and Mississippian and Triassic sandstones and shales.

In order to determine the potential of the sand and gravel aquifer underlying the Wolfville area as a possible water supply source for the municipality, several pump tests were conducted on supply wells owned by the Town of Wolfville. During one of the pump tests, July 23 to August 19, 1969, the water level drawdown for test hole 398 was monitored to aid in the evaluation

of the aquifer. Data collected during that test indicated a value of 46,567 igpd/ft for the coefficient of transmissibility and 3. x 10^{-2} for the coefficient of storativity (Trescott, 1969).

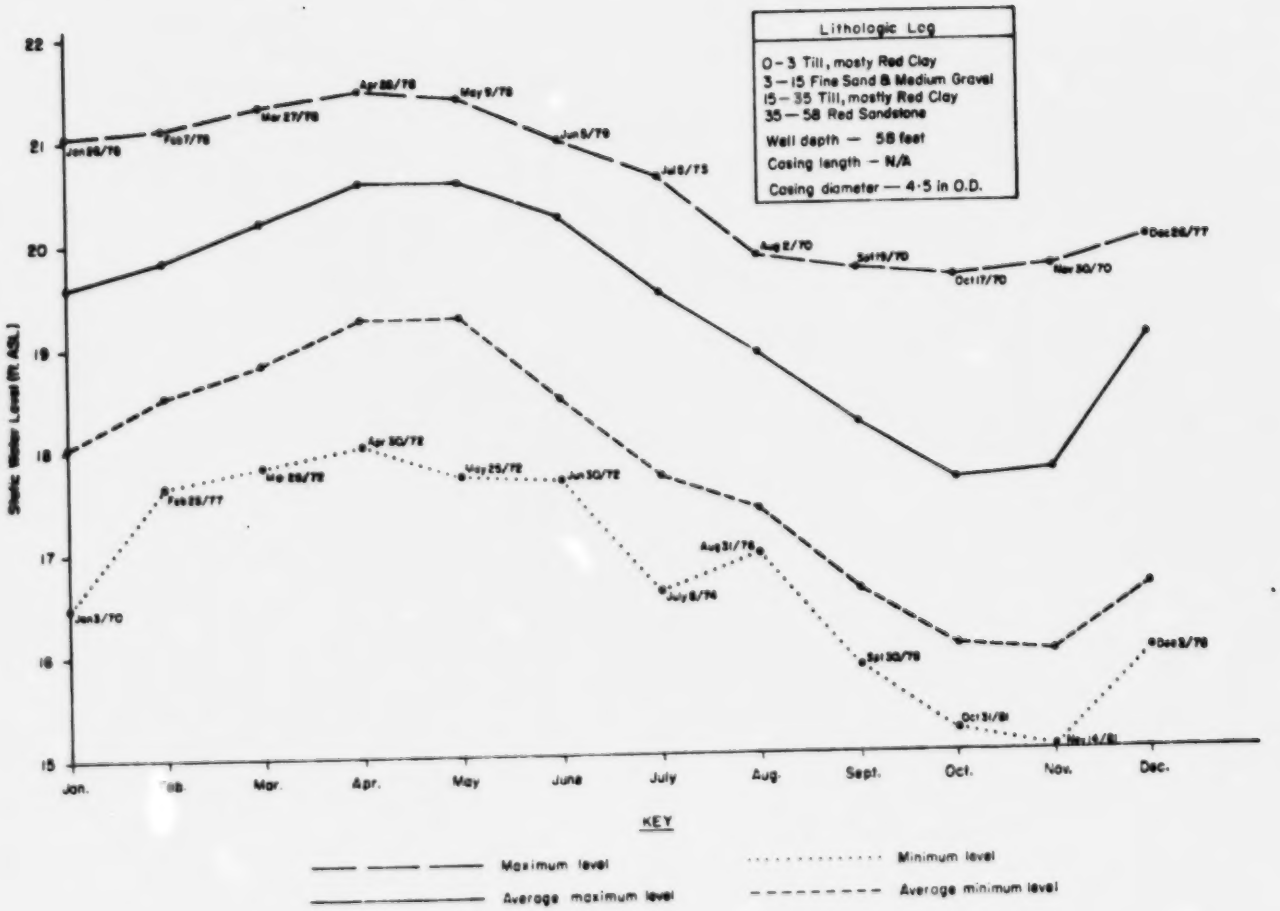
Static water level fluctuations for test hole 398 have been recorded for 11 years, 1970, 1972-1981. During the period of observation the recorded high, 21.50 ft. (A.S.L.), occurred on April 28, 1978 and the recorded low, 15.03 ft. (A.S.L.), occurred on November 14, 1981. The annual water table fluctuation varied from 4.75 feet (difference, average maximum - average minimum) to 6.47 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

Missing Data Due To Malfunctions

1970	December High, Low.
1972	January High, Low.
1978	June High, Low; July High, Low; August High, Low.
1979	July Low; August High.
1980	August High, Low.
1981	March High, Low; April High, Low; August High, Low.

WOLFVILLE 2 1970, 1972-1981
STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	19.59	19.84	20.22	20.59	20.72	20.26	19.50	18.91	18.22	17.66	17.73	19.03
AV. MIN. LEVEL	18.03	18.54	18.84	19.27	19.28	18.49	17.73	17.39	16.58	16.05	15.97	16.61
MAX. LEVEL	21.06	21.13	21.34	21.50	21.43	20.99	20.63	19.85	19.71	19.63	19.71	19.99
MIN. LEVEL	16.48	17.65	17.84	18.04	17.74	17.69	16.59	16.95	15.85	15.20	15.03	15.98
Dates												
MAX. LEVEL	26/78	7/78	27/78	28/78	9/78	5/79	5/73	2/70	19/70	17/70	30/70	26/77
MIN. LEVEL	3/70	23/77	25/72	30/72	25/72	30/72	8/74	31/76	30/78	31/81	14/81	3/78



WOLFVILLE 2–N.S.D.O.E. OBSERVATION WELL 010, 1970, 1972–1981

SHARPE BROOK - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 011

Map & File Number - 21-H-2-A-18-E
Nova Scotia Department of Mines Test Hole 417
Date Drilled; September 22, 1970, Nova Scotia Department of Mines, Rig No. 79

Purpose: Constructed for study under the International Hydrologic Decade Programme in Nova Scotia. Reported in "Hydrogeology of the Sharpe Brook I.H.D. Watershed Kings County, Nova Scotia", by Peter C. Trescott, 1969.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground level elevation 443.18 feet above sea level (A.S.L.)

Constructed in September 1970, the specifications for test hole 417 were; well depth 100 feet, casing length 21 feet, casing diameter 6 inches, and a penetration of 89 feet of bedrock. Test hole 417 was developed in conjunction with several hydrologic parameter monitoring stations initiated under the International Hydrologic Decade Programme. The surficial geology of the area was described as being a kame deposit of the Pleistocene Epoch consisting of poorly sorted silt, sand, gravel and boulders. Underlying bedrock, Halifax Formation of the Cambrian Period, was composed of interbedded slate, siltstone, and quartzite (Trescott, 1968).

Water movement through slates and quartzites was of the secondary type, joints and fractures, and as a result, the unfractured rock has a very low permeability and yielded no significant amount of water. Information from drillers' logs pertaining to wells constructed in slate and quartzite estimated an average yield of 3 1/2 igpm (Trescott 1968).

Water level fluctuations for test hole 417 have been monitored for 11 years,

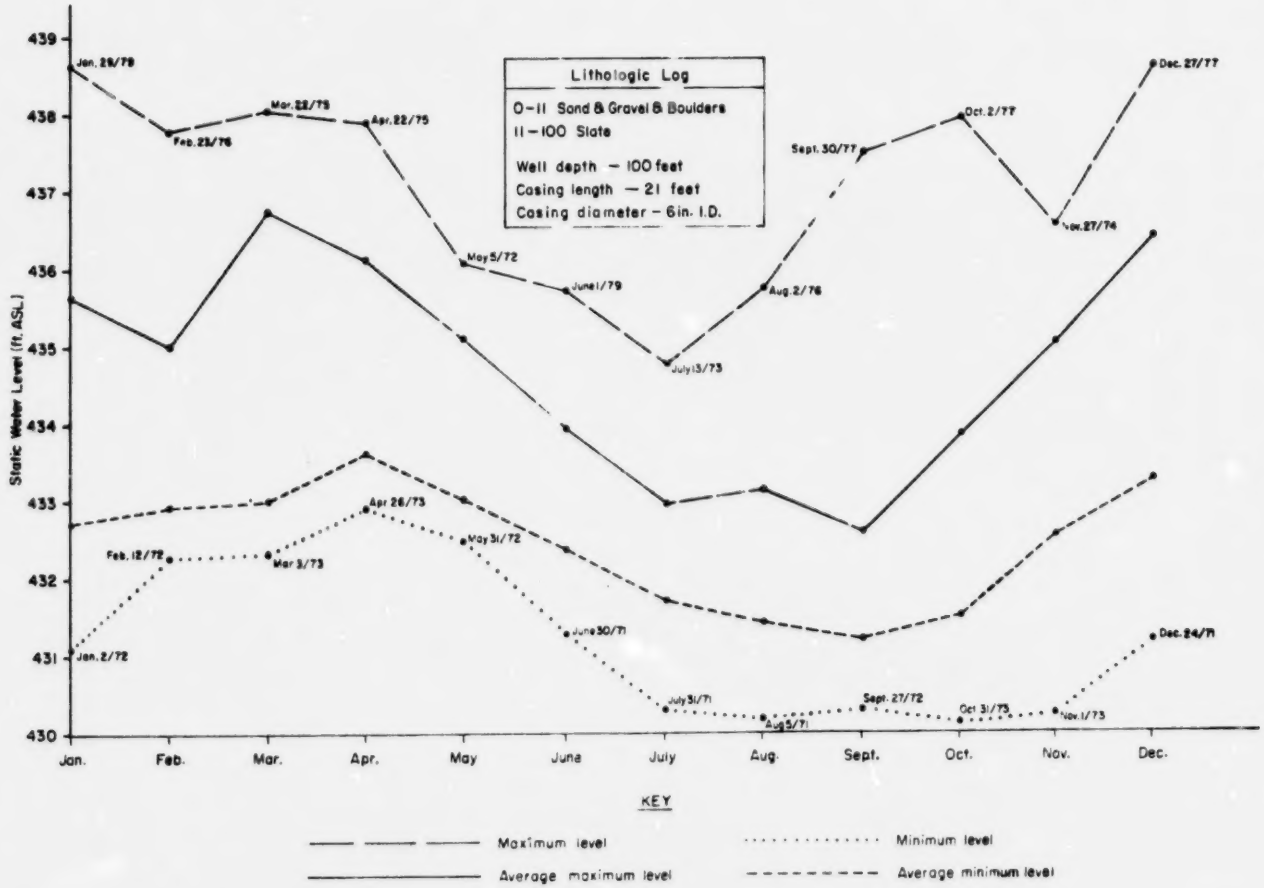
1971-1981. During the period of observation the recorded high, 438.66 ft. (A.S.L.) occurred on January 29, 1979, and the recorded low, 430.09 ft. (A.S.L.) occurred on October 31, 1973. The annual water table fluctuation varied from 5.55 feet (difference, average maximum - average minimum) to 8.57 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

Missing Data Due To Malfunctions

1976	January High, Low.
1977	January High, Low.
1978	January High, Low; February High, Low.
1979	February High, Low; March High, Low; October High; November High, Low.
1981	January High, Low; February High, Low; March High, Low; April High, Low; September High, Low; October High, Low; November High, Low.

SHARPE BROOK 1971-1981
STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	435.66	435.01	436.75	436.14	435.12	433.94	432.96	433.15	432.60	433.86	435.07	436.41
AV. MIN. LEVEL	432.74	432.94	433.01	433.62	433.04	432.38	431.71	431.42	431.20	431.50	432.54	433.27
MAX. LEVEL	438.66	437.78	438.06	437.92	436.10	435.73	434.80	435.76	437.50	437.98	436.58	438.64
MIN. LEVEL	431.10	432.27	432.33	432.92	432.49	431.28	430.28	430.16	430.28	430.09	430.21	431.18
Dates												
MAX. LEVEL	29/79	23/76	22/75	22/75	5/72	1/79	13/73	2/76	30/77	2/77	27/74	27/77
MIN. LEVEL	2/72	12/72	3/73	26/73	31/72	30/71	31/71	5/71	27/72	31/73	1/73	24/71



SHARPE BROOK—N.S.D.O.E. OBSERVATION WELL O11, 1971-1981

WOLFVILLE 3 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 012

Map & File Number - 21-H-1-B-78-K
Date Drilled: January 30, 1971, John Fisher & Sons Ltd., License No. 76

Purpose: Constructed to monitor groundwater levels and water quality as per recommendation of "Wolfville Aquifer Elevation, Kings County, Nova Scotia" by Peter C. Trescott, 1969.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 23.05 feet above sea level (A.S.L.)

Constructed in January, 1971, the specifications for Wolfville 3 were; well depth 105 feet, casing length 103 feet, and casing diameter 4 inches. The overburden penetrated was classified as a dykeland deposit of the Quaternary Period consisting of silt, clay, and sand. As may be the case in the eastern end of the Valley, the deposit overlies a sand and gravel deposit consistent to that of an outwash.

The heavy textured dykeland deposit was composed of fine grained material of low permeability, limiting a well yield satisfactory only for domestic purposes. The outwash deposit beneath produced the highest yielding surficial aquifers in the Valley region. The proximity of the outwash deposit to salt water suggested the possibility of salt water in the aquifer or that removal of fresh water by pumping will cause salt water intrusion.

Water level fluctuations for Wolfville 3 have been monitored for over 9 years, April 1971-1974, 1976-1981. During the period of observation the recorded high, 17.22 ft. (A.S.L.), occurred on May 15, 1976, the recorded low, 11.40 ft. (A.S.L.), occurred on October 28, 1978. The annual water table

fluctuation varied from 4.96 feet (difference, average maximum - average minimum), to 5.82 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

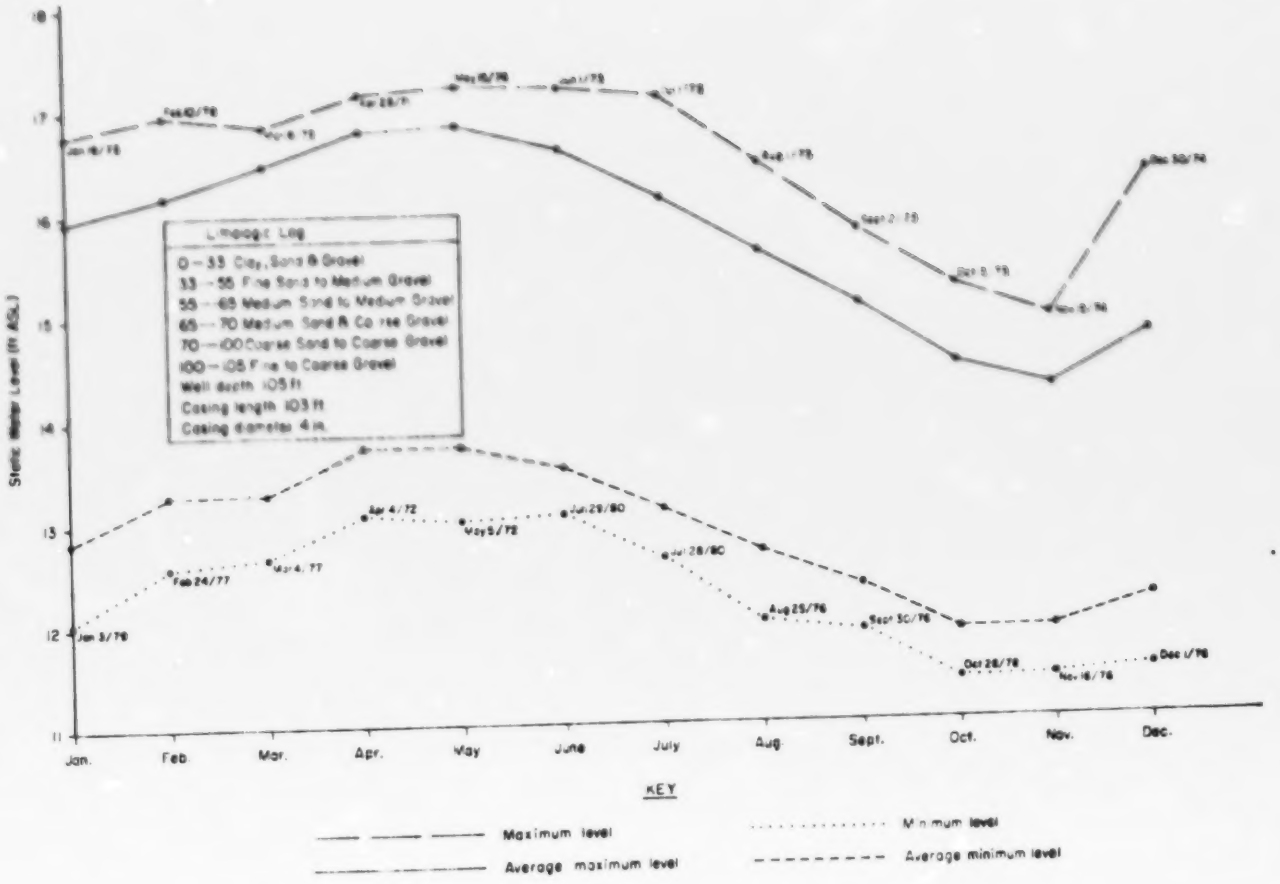
Missing Data Due To Malfunctions

1971 - September high, low; October high, low; December high, low.
1972 - January high, low; February high, low; March high, low.
1980 - September high, low.
1981 - March high, low; April high, low; May high, low June high, low.

WOLFVILLE 3 APRIL 1971 - 1974, 1976 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX LEVEL	15.93	16.18	16.47	16.80	16.85	16.60	16.11	15.59	15.06	14.47	14.24	15.24
AV. MIN LEVEL	12.84	13.27	13.28	13.72	13.73	13.50	13.10	12.68	12.34	11.89	11.90	12.18
MAX LEVEL	16.77	16.96	16.85	17.16	17.22	17.19	17.10	16.43	15.79	15.23	14.92	16.30
MIN LEVEL	12.02	12.57	12.65	13.07	13.00	13.06	12.61	11.98	11.89	11.40	11.42	11.49
Dates												
MAX LEVEL	19/73	10/78	18/73	23/71	15/76	1/73	1/73	1/73	2/73	15/77	15/74	30/74
MIN LEVEL	3/79	24/77	4/77	4/72	5/72	29/80	28/80	25/76	30/76	28/78	16/76	1/76



WOLFVILLE 3 – N.S.D.O.E. OBSERVATION WELL 012, APRIL 1971 – 1974, 1976 – 1981

TRURO 420 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 013

Map & File Number - 11-E-6-B-99-N
Nova Scotia Department of Mines Test Hole 420
Date Drilled: November 2, 1970, Nova Scotia Department of Mines, Rig No. 70

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1972.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground level Elevation 28.08 feet above sea level (A.S.L.)

Constructed in November, 1970, the specifications for test hole 420 were; well depth 400 feet, casing length 15 feet, and casing dimeter 6 inches. Surficial geology of the area was classified as an outwash sand and gravel of the Pleistocene Epoch. The deposit material was characteristically coarse grained, well sorted and stratified in thin foreset beds. The underlying bedrock, Wolfville Formation of the Triassic Period, consisted of interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

Data obtained from pump tests conducted on municipal wells penetrating aquifers in the Wolfville Formation indicated that wells with between 200-500 feet of saturated thickness should yield at least 500 igpm for 20 years of continuous pumping, (Hennigar, 1972). Movement of water through the formation's sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Water level fluctuations for test hole 420 have been monitored for over 9 years, May 1971 - 1974, 1976 - 1981. During the period of observation the recorded high, 28.23 ft. (A.S.L.), occurred on January 16, 1972 and the recorded low, 22.51 ft. (A.S.L.), occurred on October 24, 1973. The annual water table fluctuation varied from 3.51 feet (difference, average maximum-average minimum) to 5.72 feet (difference, absolute maximum-absolute

minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

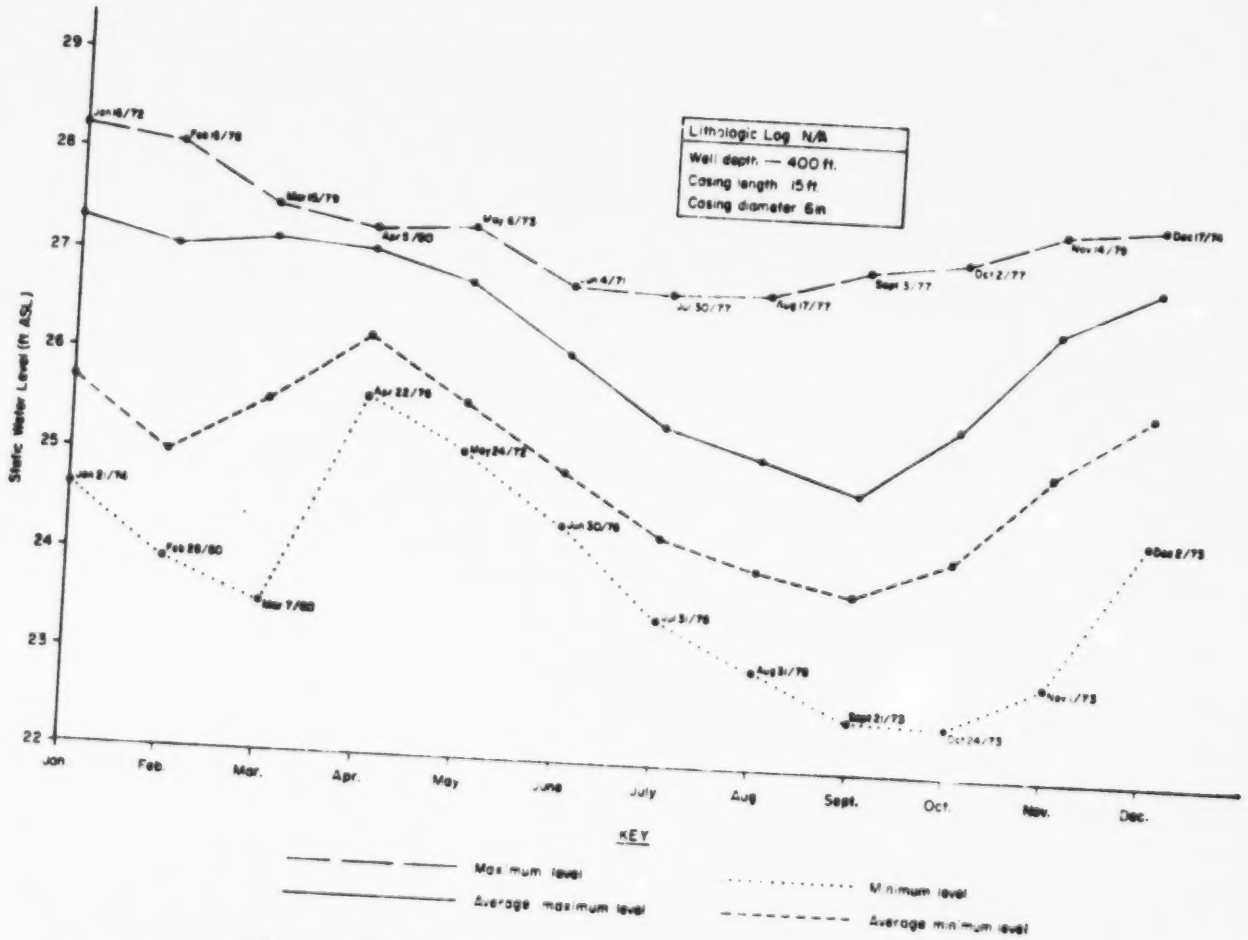
Missing Data Due To Malfunctions.

1972 - February high, low; March high, low; April high, low.
1973 - February high, low
1977 - January high, low
1980 - May high, low
1981 - January high, low; February high, low; March high, low;
April high, low; May high, low; October high, low;
December high, low

TRURO 420 MAY 1971-1974, 1976-1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX LEVEL	27.32	27.07	27.16	27.10	26.82	26.12	25.44	25.15	24.84	25.53	26.54	27.01
AV. MIN LEVEL	25.71	25.00	25.56	26.23	25.60	24.93	24.32	24.02	23.81	24.18	25.10	25.73
MAX LEVEL	28.23	28.08	27.50	27.30	27.36	26.82	26.77	26.81	27.09	27.21	27.55	27.64
MIN LEVEL	24.63	23.91	23.51	25.61	25.10	24.39	23.49	23.00	22.54	22.51	22.96	24.44
Dates												
MAX LEVEL	16/72	15/78	15/79	5/80	6/73	4/71	30/77	17/77	3/77	2/77	14/79	17/79
MIN LEVEL	21/74	28/80	7/80	22/76	24/72	30/76	31/78	31/78	21/73	24/73	1/73	2/73



TRURO 420 – N.S.D.O.E. OBSERVATION WELL 013, MAY 1971–1974, 1976–1981

TRURO 421 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 014

Map & File Number - 11-E-6-B-99-F
Nova Scotia Department of Mines Test Hole 421
Date Drilled: November 16, 1970, Nova Scotia Department of Mines,Rig No. 79.

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1972.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 28.56 feet above sea level (A.S.L.)

Constructed in November, 1970, the specifications for test hole 421 were; well depth 300 feet, casing length 60 feet, casing diameter 6 inches, and a penetration of 265 feet of bedrock. Surficial geology of the area was classified as an outwash sand and gravel of the Pleistocene Epoch. The deposit material was characteristically coarse grained, well sorted and stratified in this foreset beds. The underlying bedrock, Wolfville Formation of the Triassic Period, consisted of interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

Data obtained from pump tests conducted on municipal wells penetrating aquifers in the Wolfville Formation indicated that wells with between 200-300 feet of saturated thickness should yield at least 500 igpm for 20 years of continuous pumping (Hennigar, 1972). Movement of water through the formation's sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Water level fluctuations for test hole 421 have been monitored for over 10 years, May 1971 - 1981. During the period of observation the recorded high, 28.56 ft (A.S.L.), occurred on January 14, 1978 and December 23, 1975, and the recorded low, 20.49 ft. (A.S.L.) occurred on September 25, 1975. The annual water table fluctuation varied from 5.00 feet (difference, average maximum - average minimum) to 8.07 feet (difference, absolute maximum - absolute minimum). This test hole is till being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

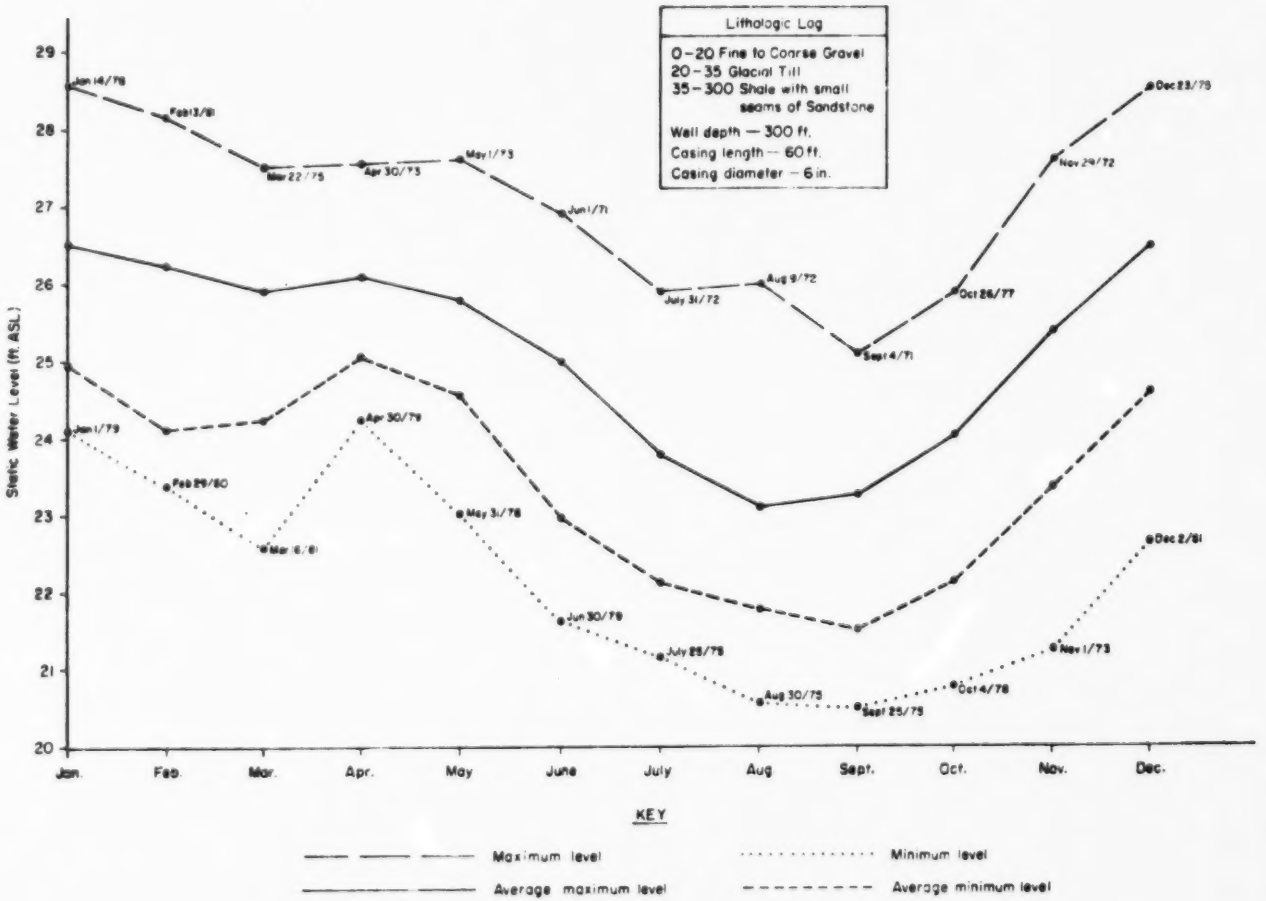
Missing Data Due To Malfunction

1972 - February high, low; March high, low; April high, low; May high, low.
1973 - February high, low; March high, low.
1981 - April high, low; May high, low.

TRURO 421 MAY 1971 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	26.50	26.23	25.90	26.07	25.79	24.99	23.78	23.12	23.24	24.01	25.37	26.48
AV. MIN. LEVEL	24.94	24.11	24.23	25.05	24.55	22.98	22.13	21.79	21.50	22.13	23.35	24.59
MAX. LEVEL	28.56	28.16	26.84	27.57	27.60	26.92	25.88	26.00	25.10	26.58	27.62	28.56
MIN. LEVEL	24.10	23.36	22.58	24.22	23.01	21.64	21.14	20.56	20.49	20.77	21.25	22.62
Dates												
MAX. LEVEL	14/78	13/81	22/75	30/73	1/33	1/71	31/72	9/72	4/71	26/77	29/72	23/75
MIN. LEVEL	1/79	29/80	16/81	30/79	31/78	30/79	25/75	30/75	25/75	4/78	1/73	2/81



TRURO 421 – N.S.D.O.E. OBSERVATION WELL 014, MAY 1971–1981

TRURO 422 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 015

Map & File Number - 11-E-6-B-99-E
Nova Scotia Department of Mines Test Hole 422
Date Drilled: November 18, 1970, Nova Scotia Department of Mines, Rig Number 79

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1972.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 31.35 feet above sea level (A.S.L.)

Constructed in November, 1970, the specifications for test hole 422 were; well depth 400 feet, casing length 65 feet, casing diameter 6 inches, and a penetration of 340 feet of bedrock. Surficial geology of the area was classified as an outwash sand and gravel of the Pleistocene Epoch. The deposit material was characteristically coarse grained, well sorted and stratified in thin foreset beds. The underlying bedrock, Wolfville Formation of the Triassic Period, consisted of interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

Data obtained from pump tests conducted on municipal wells penetrating aquifers in the Wolfville Formation indicated that wells with between 200-300 feet of saturated thickness should yield at least 500 igpm for 20 years of continuous pumping, (Hennigar, 1972). Movement of water through the formation's sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Water level fluctuations for test hole 422 have been monitored for over 10 years, May 1971-1981. During the period of observation the recorded high, 27.25 ft. (A.S.L.), occurred on May 5, 1972, and the recorded low, 22.51 ft. (A.S.L.), occurred on March 5, 1980. The annual water table fluctuation varied from 2.69 feet (difference, average maximum - average minimum) to 4.74 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

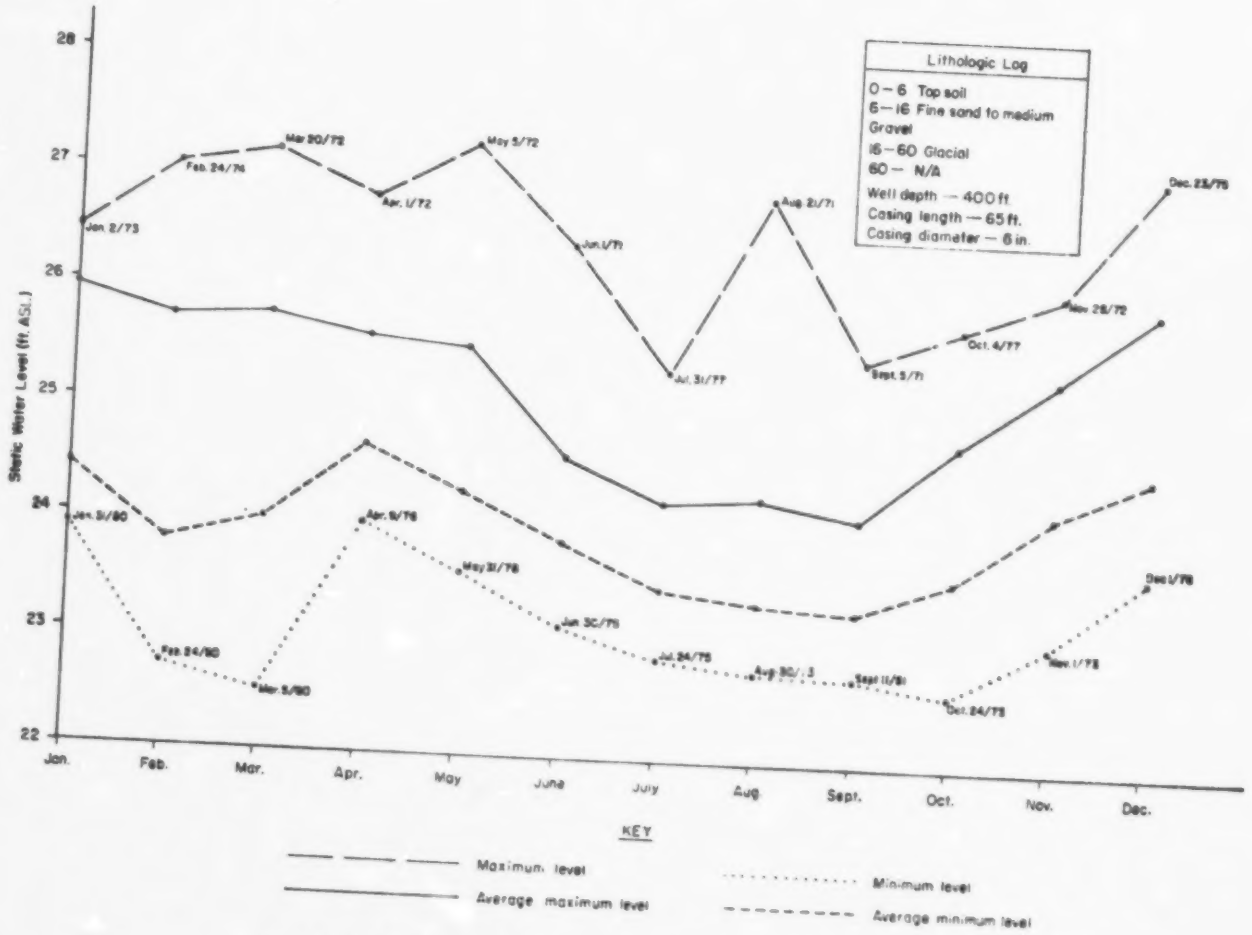
Missing Data Due To Malfunctions

1978	January High, Low.
1981	April Low; May High, Low.

TRURO 422 May 1971 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	25.96	25.73	25.77	25.59	25.52	24.59	24.23	24.28	24.12	24.80	25.38	26.01
AV. MIN. LEVEL	24.42	23.79	24.01	24.65	24.27	23.86	23.48	23.38	23.32	23.62	24.20	24.56
MAX. LEVEL	26.45	27.02	27.15	26.78	27.25	26.41	25.35	26.86	25.50	25.81	26.12	27.12
MIN. LEVEL	23.91	22.71	22.51	23.99	23.57	23.13	22.87	22.78	22.76	22.63	23.08	23.71
Dates												
MAX. LEVEL	2/73	24/74	20/72	1/72	5/72	1/71	31/77	21/71	5/71	4/77	28/72	23/75
MIN. LEVEL	31/80	29/80	5/80	9/76	31/78	30/75	24/75	30/75	11/81	24/73	1/73	1/78



TRURO 422 – N.S.D.O.E. OBSERVATION WELL 015, MAY 1971 – 1981

SABLE ISLAND 19 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 016

Map & File Number - UTM Grid 582681
Nova Scotia Department of the Environment "Water Resources and Environmental Geology of Sable Island, Nova Scotia" Test Hole 19
Date Drilled: September 2, 1971, Geophysical Service Incorporated

Purpose: Constructed to aid in the evaluation of the occurrence, quality and quantity of groundwater as reported by Terry W. Hennigar, 1976.

Monitoring Equipment: Stevens Type F Recorder, Model 68.
Elevation of measuring point in feet above chart datum 9.33.

Constructed in September 1971, test hole 19 was washed in to a depth of 101.7 feet. The four inch diameter casing was 91.7 feet in length with a 10 foot section of 20 slot screen attached. The surficial geology of the area was described as unconsolidated sand deposits of the Quaternary Period estimated to be 1,000 feet deep. Particle size of the sandy deposit range from about 0.003 to 0.07 of an inch in diameter.

Pump test analysis from other wells constructed in the interbedded aeolian and beach sands of Sable Island stated values of 31,000 igpd/ft. for the mean coefficient of transmissibility and 0.36 as the mean coefficient of storativity (Hennigar, 1976).

Test hole 19 was one of the four wells chosen for groundwater level fluctuation monitoring from the fifty wells constructed for the project's test drilling program. Static water level fluctuations for test hole 19 are

available for more than five years, November 1971-1974, February 1976 - September 1978. During the period of observation the recorded high, 6.01 ft. (above chart datum), occurred on March 18, 1974 and the recorded low, 1.34 ft.(above chart datum), occurred on June 21, 1973. The annual water table fluctuation varied from 2.97 feet (difference, average maximum - average minimum) to 4.67 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

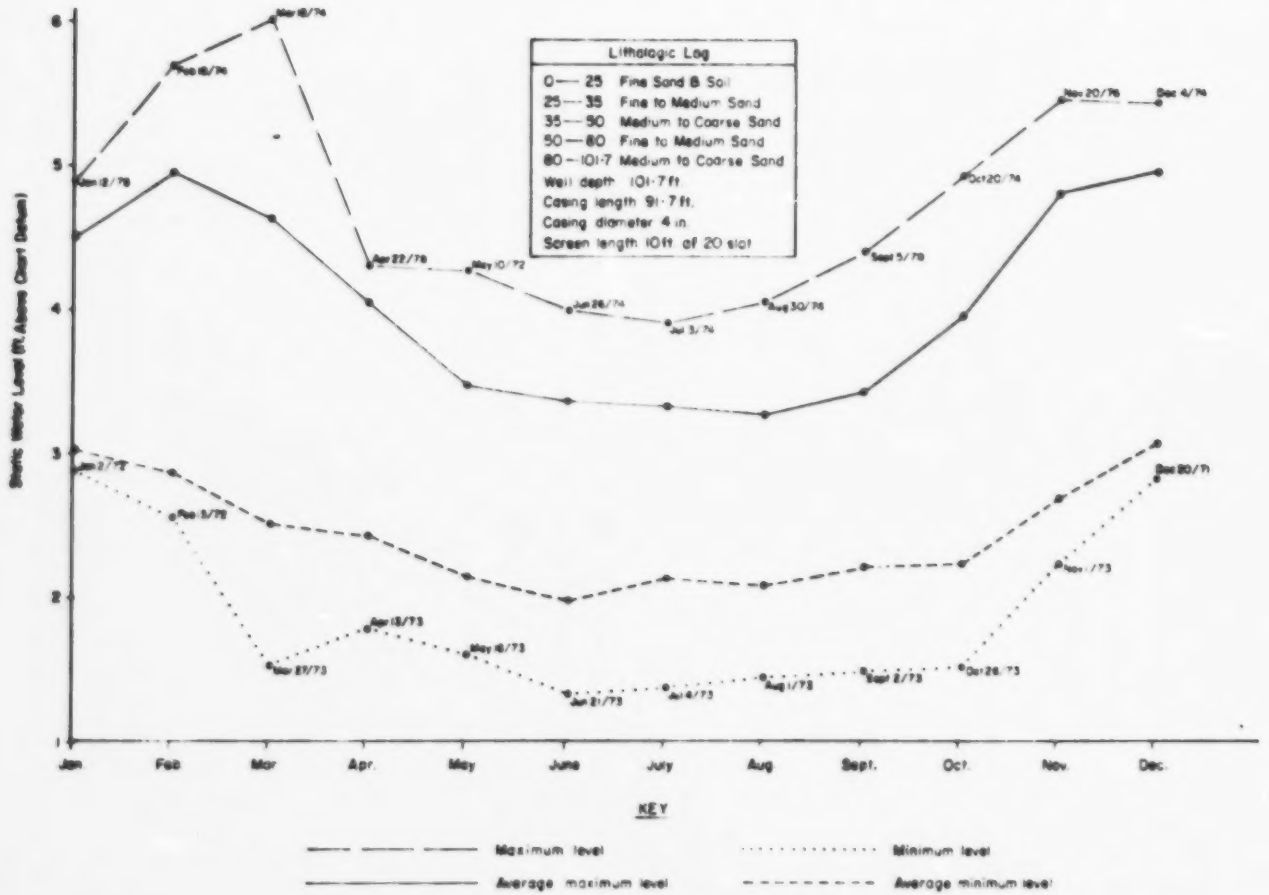
Missing Data Due To Malfunctions

1973	November High, Low; December High, Low.
1977	January High, Low; February High, Low; March High, Low.

SABLE ISLAND 19 NOVEMBER 1971-1974, FEBRUARY 1976 - SEPTEMBER 1978

STATIC WATER LEVEL READINGS IN FEET ABOVE CHART DATUM

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	4.51	4.96	4.63	4.05	3.48	3.36	3.33	3.27	3.43	3.96	4.81	4.96
AV. MIN. LEVEL	3.03	2.88	2.52	2.43	2.15	1.99	2.14	2.09	2.21	2.23	2.68	3.07
MAX. LEVEL	4.90	5.69	6.01	4.30	4.27	4.00	3.92	4.06	4.40	4.93	5.47	5.44
MIN. LEVEL	2.89	2.57	1.54	1.79	1.61	1.34	1.38	1.44	1.48	1.51	2.22	2.82
Dates												
MAX. LEVEL	12/78	18/74	18/74	22/78	10/72	26/74	3/74	30/76	5/78	20/74	20/76	4/74
MIN. LEVEL	2/72	13/72	27/73	13/73	16/73	21/73	4/73	1/73	2/73	26/73	1/71	20/71



SABLE ISLAND 19 – N.S.D.O.E. OBSERVATION WELL 016, NOVEMBER 1971 – 1974, FEBRUARY 1976 – SEPTEMBER 1978

SABLE ISLAND 50 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 017

Map & File Number - UTM Grid 582681
Nova Scotia Department of the Environment "Water Resources and Environmental Geology of Sable Island, Nova Scotia" Test Hole 50.

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1976.

Monitoring Equipment: Stevens Type F Recorder, Model 68.

Test hole 50 penetrated a surficial deposit of Quaternary unconsolidated sands estimated to be 1,000 feet deep. Particle size of the sandy deposit ranged from about 0.003 to 0.07 of an inch in diameter. Pump test analysis from other wells constructed in the interbedded aeolian and beach sands of Sable Island stated values of 31,000 igpd/ft. for the mean coefficient of transmissibility and 0.36 as the mean coefficient of storativity (Hennigar, 1976).

Test hole 50 was one of the four wells chosen for groundwater level fluctuation monitoring from the fifty wells constructed for the project's test drilling program. For the period of recorded observation, March 1975 - July 1978, the high static water level, 5.41 feet (above chart datum) occurred on January 24, 1976, and the low static water level, 2.89 feet (above chart datum) occurred on August 30, 1975 and September 11, 1977. Available data indicate that the water table fluctuated 2.52 feet annually, (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

SABLE ISLAND - N.S.D.O.E. 017
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE CHART DATUM
(1975 - 1978)
(1975)

MONTH	DAY	HIGH	DAY	LOW
January				
February		Start		
March	4	4.66	20	4.23
April	6	4.88	24	4.31
May	6	4.59	27	3.82
June	9	4.07	30	3.27
July	3	3.30	28	2.92
August	1	3.24	30	2.89
September		A		A
October		A		A
November		A		A
December		A		A

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM'
N/A	N/A	N/A	N/A

SABLE ISLAND - N.S.D.O.E. 017
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE CHART DATUM
(1975 - 1978)
(1976)

MONTH	DAY	HIGH	DAY	LOW
January	17	5.17	31	2.87
February	24	5.23	15	2.41
March	20	5.05	13	4.24
April	10	4.76	30	4.09
May	4	4.17	31	3.50
June	1	3.50	25	2.97
July		C		C
August	31	3.58	1	3.08
September	12	3.94	26	3.51
October	27	5.10	1	3.70
November		5.11		4.52
December		C		C

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

SABLE ISLAND - N.S.D.O.E. 017
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE CHART DATUM
(1975 - 1978)
(1977)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March	26	4.76	11	4.08
April	1	4.52	29	3.89
May	1	3.92	26	3.37
June		C		C
July	1	3.75	21	3.15
August	21	3.34	14	3.01
September	30	3.59	11	2.89
October	21	4.27	1	3.59
November	28	4.65	10	3.50
December	21	5.22	6	4.37

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

SABLE ISLAND - N.S.D.O.E. 017

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE CHART DATUM

(1975 - 1978)

(1978)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March		A		A
April		A		A
May	1	4.13	31	3.[illegible]
June	16	4.07	9	3.[illegible]
July	19	3.89	17	3.44
August		End		
September				
October				
November				
December				

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

SABLE ISLAND 47-NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 018

Nova Scotia Department of the Environment "Water Resources and Environmental Geology of Sable Island" Test Hole 47.

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1976.

Monitoring Equipment: Stevens Type F Recorder, Model 68.

Test hole 47 penetrated a surficial deposit of Quaternary unconsolidated sands estimated to be 1,000 feet deep. Particle size of the sandy deposit ranged from about 0.003 to 0.07 of an inch in diameter. Pump test analysis from other wells constructed in the interbedded aeolian and beach sands of Sable Island stated values of 31,000 igpd/ft. for the mean coefficient of transmissibility and 0.36 as the mean coefficient of storativity (Hennigar, 1976).

Test hole 47 was one of the four wells chosen for groundwater level fluctuation monitoring from the fifty wells constructed for the project's test drilling program. For the period of recorded observation, October 1972 - August 1974, the high static water level, 4.83 feet (above chart datum), occurred on December 22, 1972 and the low static water level, 2.69 feet (above chart datum), occurred on August 30, 1974. Available data indicated that the water table fluctuated 2.14 feet annually, (difference, absolute maximum - absolute minimum).

SABLE ISLAND - N.S.D.O.E. 018
MONTHLY HIGH AND LOW STATIC WATER LEVEL
READINGS IN FEET ABOVE CHART DATUM
(1972 - 1974)

(1972)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June				
July				
August				
September		Start		
October	30	3.90	6	2.79
November	29	4.55	3	3.72
December	22	4.83	13	4.03

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

Lithologic Log'	Well Depth'	Casing Length'	Casing Diameter"
N/A	N/A	N/A	N/A

SABLE ISLAND - N.S.D.O.E. 018
MONTHLY HIGH AND LOW STATIC WATER LEVEL
READINGS IN FEET ABOVE CHART DATUM
(1972 - 1974)

(1973)

MONTH	DAY	HIGH	DAY	LOW
January		B		B
February	3	4.58	28	3.75
March	29	4.43	11	3.18
April	5	4.33	3	3.23
May	24	3.79	15	3.23
June	19	4.12	9	3.11
July	7	3.29	27	3.05
August	25	3.23	3	2.94
September	24	3.50	2	3.04
October	30	3.95	26	3.15
November	7	4.22	25	3.65
December	14	4.26	10	3.69

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

SABLE ISLAND - N.S.D.O.E. 018
MONTHLY HIGH AND LOW STATIC WATER LEVEL
READINGS IN FEET ABOVE CHART DATUM
(1972 - 1974)

(1974)

MONTH	DAY	HIGH	DAY	LOW
January	1	3.95	27	3.46
February	25	4.42	16	3.54
March	1	4.01	16	3.54
April	11	3.90	30	3.25
May	6	3.45	23	2.93
June	28	4.05	19	2.74
July	10	3.91	31	3.07
August	1	3.11	30	2.69
September		End		
October				
November				
December				

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

MILL VILLAGE - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 020

Map No. 21-A-2-D-17

Purpose: As a result of several complaints from residents of Mill Village to a decrease in water levels in domestic dug wells, the Nova Scotia Department of the Environment initiated an investigation to determine the responsible occurrence. According to the local residents the lower water levels were in direct correlation to the excavation of sand and gravel from the area referred to locally as the "village square". The digging operation was the first phase in what was to become a trout farm operation undertaken by a local resident. In order to gather site specific groundwater level elevations and to monitor the groundwater levels during the completion of the trout farm, a water level recorder was installed by the Department of the Environment on an existing dug well situated in the village square.

Monitoring Equipment: Stevens Type F Recorder, Model 68

MILL VILLAGE - N.S.D.O.E. 020

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF WELL CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 20 FT A.S.L. (APPROXIMATELY)

(1974 - 1978)

(1974)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June		Start		
July	1	10.54	28	11.25
August	1	11.00	11	11.56
September	3	11.15	30	10.41
October	27	8.25	1	10.43
November	22	7.94	7	8.73
December	31	8.80	3	7.39

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	DUG WELL DEPTH'	DUG WELL DIAM'
N/A	11.5	36

MILL VILLAGE - N.S.D.O.E. 020

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF WELL CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 20 FT A.S.L. (APPROXIMATELY)

(1974 - 1978)

(1975)

MONTH	DAY	HIGH	DAY	LOW
January	14	7.25	3	8.78
February	6	8.40	22	8.80
March	21	6.96	7	8.76
April	5	7.76	16	8.51
May	1	8.33	16	9.27
June	9	8.18	28	9.23
July	1	9.16	31	10.04
August	1	9.96	30	10.96
September	1	10.73	20	11.22
October	21	8.25	2	10.82
November	28	7.63	12	9.05
December	10	6.60	9	8.78

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

MILL VILLAGE - N.S.D.O.E. 020

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF WELL CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 20 FT A.S.L. (APPROXIMATELY)

(1974 - 1978)

(1976)

MONTH	DAY	HIGH	DAY	LOW
January	17	8.02	26	8.80
February	23	7.70	15	8.91
March	27	8.09	12	8.88
April	3	7.71	22	9.00
May	3	8.17	31	8.91
June	1	8.88	24	9.46
July		A		A
August	1	9.36	26	10.25
September	3	9.96	17	10.44
October	28	8.65	3	10.18
November	7	8.36	28	9.06
December		B	1	9.04

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

MILL VILLAGE - N.S.D.O.E. 020
MONTHLY HIGH AND LOW STATIC WATER LEVELS
READINGS ARE FROM TOP OF WELL CASING TO STATIC WATER LEVEL (FT.)
DATUM POINT 20 FT A.S.L. (APPROXIMATELY)
(1974 - 1978)
(1977)

MONTH	DAY	HIGH	DAY	LOW
January		B		B
February	28	7.94	20	9.07
March	16	7.40	5	8.67
April	6	7.87	22	9.02
May	1	8.80	31	9.48
June	13	9.08	3	9.89
July	1	9.48	12	10.82
August	26	10.17	11	10.48
September	30	9.62	13	10.63
October	21	7.96	1	9.62
November	19	8.40	7	9.20
December	9	7.96	5	8.88

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

MILL VILLAGE - N.S.D.O.E. 020

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF WELL CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 20 FT A.S.L. (APPROXIMATELY)

(1974 - 1978)

(1978)

MONTH	DAY	HIGH	DAY	LOW
January	15	6.77	8	9.08
February	1	8.38	28	9.48
March	13	9.70	29	8.42
April	6	8.37	19	9.05
May	19	8.78	29	9.30
June	4	9.20	30	9.68
July	2	9.58	31	10.59
August	2	10.49	31	11.21
September	13	11.06	28	11.86
October	31	10.93	4	11.84
November	30	10.90	14	11.35
December	18	8.76	1	10.95

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

WITTENBERG FARM - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 021

Map & File Number - 21-H-1-C-11-C
Nova Scotia Department of Mines, "Nitrate Contamination of the Groundwater of the Annapolis-Cornwallis Valley, Nova Scotia", Test Hole 6.
Date Drilled: 1973, Nova Scotia Department of Mines, Rig No. 79

Purpose: Constructed to aid in the evaluation of the areal extent and source of nitrate contamination of groundwater in the north eastern part of the Annapolis-Cornwallis Valley as reported by B. Lynn Thomas, 1974.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground level elevation 94.71 feet above sea level (A.S.L.)

In 1972, water samples were collected from various wells located in the eastern part of the Annapolis Valley. Analysis of the samples indicated a large percentage of wells had high nitrate concentrations. These findings initiated a study conducted jointly by the Nova Scotia Departments of Public Health and Environment to determine the areal extent and source of the nitrate contamination. Test Hole 6 was one of several wells constructed to aid in the investigation.

Constructed in 1973, the specifications for test hole 6 were; well depth 100 feet, casing length 42 feet, casing diameter 4 inches, and a penetration of 89 feet of bedrock. The surficial deposit has been classified as till of the Pleistocene Epoch underlain by bedrock identified as the Wolfville Formation of the Triassic Period. The Wolfville Formation consisted of interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

No pump test was conducted on test hole 6. However, three pump tests conducted on aquifers in the Wolfville Formation produced values of 1.5 x 10^{-4}, 2.0 x 10^{-4} and 1.8 x 10^{-4} for the coefficient of storage. Values for coefficient of transmissibility (igpd/ft.) were 6,400, 3,700 and 2,000 respectively (Trescott, 1968). Movement of water through the formation's sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

For the six years of recorded water level fluctuations, 1975-1978, 1980-1981, for test hole 6, the recorded high, 93.24 ft. (A.S.L.) occurred on April 19, 1975, the recorded low, 81.92 ft. (A.S.L.), occurred on November 14, 1978. The annual water table fluctuation varied from 8.12 feet (difference, average maximum - average minimum) to 11.32 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

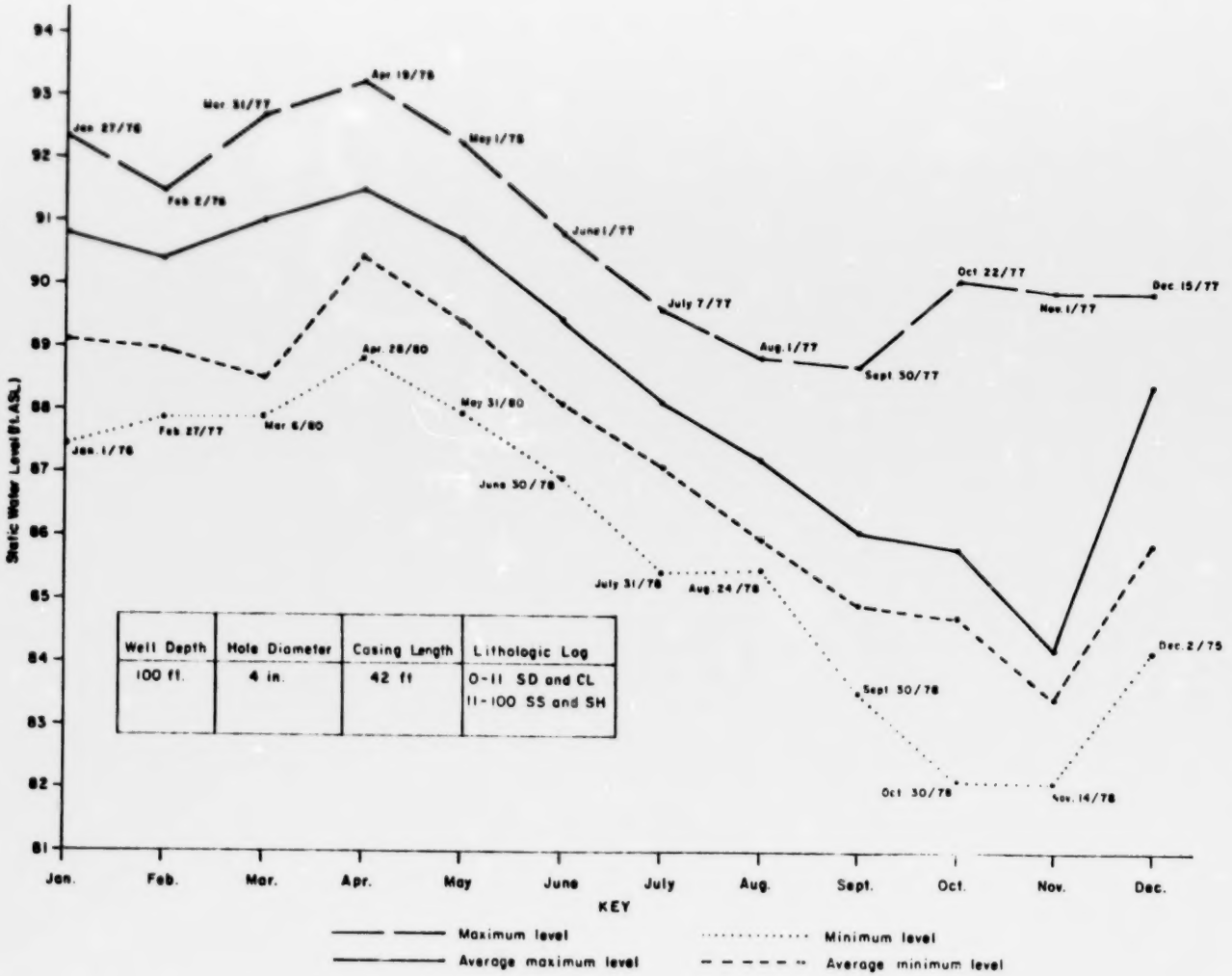
Missing Data Due to Malfunctions

1978	December High, Low
1980	October High, Low
1981	February Low; March High, Low; April High, Low

WITTENBERG FARM 1975-1978, 1980-1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	90.80	90.40	91.04	91.54	90.76	89.47	88.17	87.25	86.14	85.82	84.23	88.44
AV. MIN. LEVEL	89.13	88.98	88.56	90.44	89.42	88.15	87.13	85.97	84.94	84.78	83.42	85.94
MAX. LEVEL	92.33	91.48	92.68	93.24	92.26	90.88	89.64	88.90	88.73	90.48	90.16	89.96
MIN. LEVEL	87.44	87.84	87.93	88.82	87.98	86.96	85.42	84.50	83.57	82.17	81.92	84.21
Dates												
MAX. LEVEL	27/78	2/76	31/77	19/75	1/75	1/77	7/77	1/77	30/77	27/77	1/77	15/77
MIN. LEVEL	1/76	27/77	6/80	28/80	31/80	30/78	31/78	24/78	30/78	30/78	14/78	2/75



Well Depth	Hole Diameter	Casing Length	Lithologic Log
100 ft.	4 in.	42 ft	0-11 SD and CL 11-100 SS and SH

WITTENBERG FARM - N.S.D.O.E. OBSERVATION WELL 021, 1975-1978, 1980-1981

LOWER CANARD - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 022

Map & File Number - 21-H-1-C-7-N
Nova Scotia Department of Mines, "Nitrate Contamination in the Groundwater of the Annapolis-Cornwallis Valley, Nova Scotia" Test Hole 9.
Date Drilled: 1973, Nova Scotia Department of Mines, Rig Number 79

Purpose: Constructed to aid in the evaluation of the areal extent and source of nitrate contamination of groundwater in the north eastern part of the Annapolis-Cornwallis Valley as reported B. Lynn Thomas, 1974.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground level elevation 92.46 feet above sea level (A.S.L.)

In 1972, water samples were collected from various wells located in the eastern part of the Annapolis Valley. Analysis of the samples indicated a large percentage of wells had high nitrate concentrations. These findings initiated a study conducted jointly by the Nova Scotia Departments of Public Health and Environment to determine the areal extent and source of the nitrate contamination. Test hole 9 was one of several wells constructed to aid in the investigation.

Constructed in 1973, the specifications for test hole 9 were; well depth 160 feet, casing length 100 feet, casing diameter 4 inches, and a penetration of 151 feet of bedrock. The surficial deposit has been classified as till of the Pleistocene Epoch underlain by bedrock identified as the Wolfville Formation of the Triassic Period. The Wolfville Formation consisted of interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

No pump test data was conducted on test hole 9. However, three pump tests conducted on aquifers in the Wolfville Formation produced values of 1.5×10^{-4}, 2.0×10^{-4} and 1.8×10^{-4} for the coefficient of storage. Values for coefficient of transmissibility (igpd/ft.) were 6,400, 3,700 and 2,000 respectively (Trescott, 1968). Movement of water through the formation's sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Water level fluctuations have been monitored for test hole 9 for more than 7 years, September 1974 - 1981. During the time of observation the recorded high, 76.60 ft. (A.S.L.) occurred on November 18, 1979 and the recorded low, 68.21 ft. (A.S.L.) occurred on November 8, 1978. The annual water table fluctuation varied from 4.47 feet (difference, average maximum - average minimum) to 8.39 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

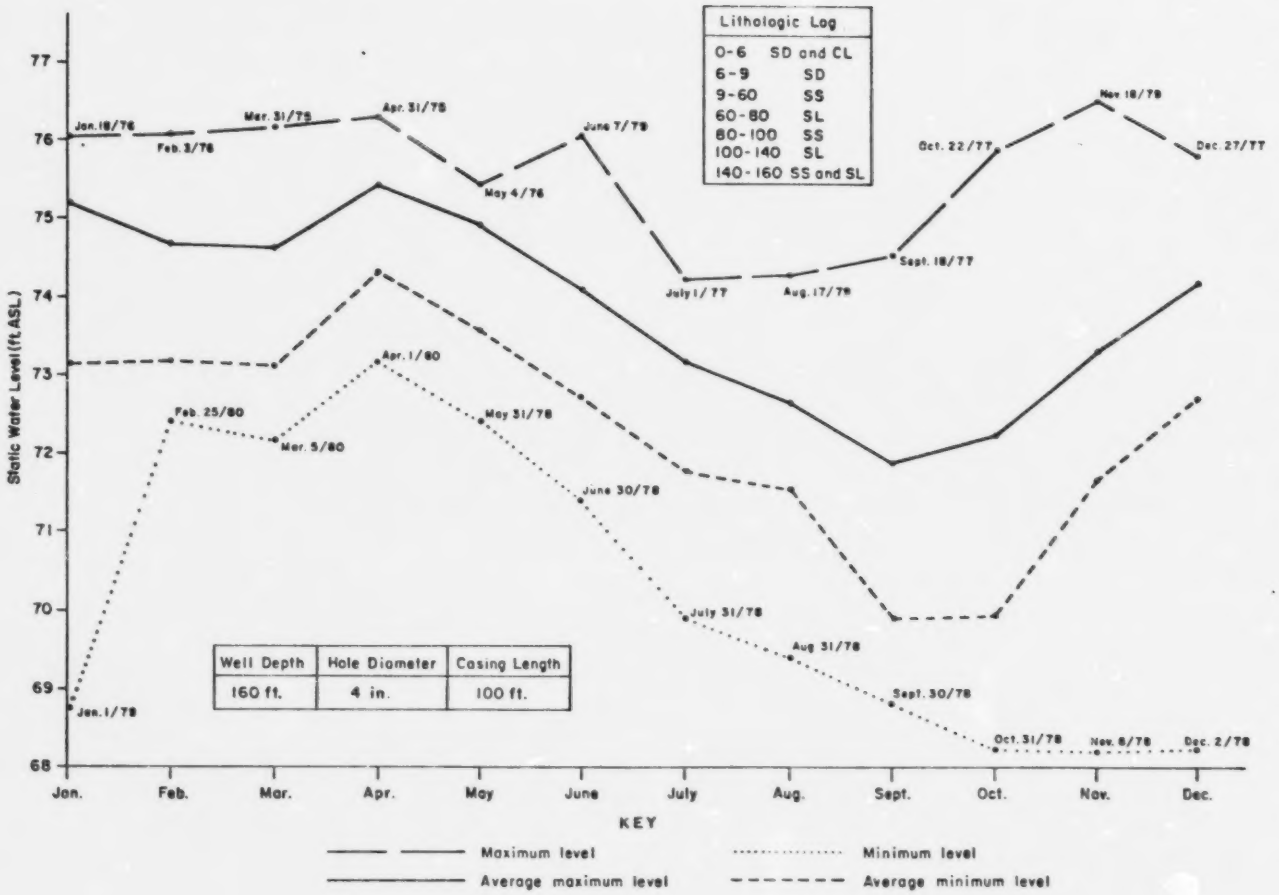
Missing Data Due To Malfunctions

1976	March High, Low
1981	January, High Low; February High, Low; March High, Low; April High, Low; May High, Low; June High, Low; July High, Low; August High, Low.

LOWER CANARD SEPTEMRER 1974-1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	75.17	74.69	74.64	75.37	74.95	74.11	73.18	72.66	71.89	72.23	73.36	74.19
AV. MIN. LEVEL	73.15	73.17	73.09	74.31	73.60	72.81	71.81	71.55	70.90	70.98	71.70	72.77
MAX. LEVEL	76.02	76.06	76.16	76.31	75.46	76.07	74.25	74.30	74.56	75.93	76.60	75.84
MIN. LEVEL	68.76	72.46	72.16	73.16	72.39	71.38	69.90	69.37	68.86	68.26	68.21	68.28
Dates												
MAX. LEVEL	18/76	3/76	31/75	31/75	4/76	7/79	1/77	17/79	18/77	22/77	18/79	27/77
MIN. LEVEL	1/79	25/80	5/80	1/80	31/78	30/78	31/78	31/78	30/78	31/78	8/78	2/78



LOWER CANARD - N.S.D.O.E. OBSERVATION WELL 022, SEPTEMBER 1974 - 1981

THREE BROOKS - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 023

Map & File Number - 11-E-10-C-74
Nova Scotia Department of the Environment "Groundwater Survey For Three Brooks, Pictou County", Test Hole 6
Date Drilled: April 8, 1975, E. D. Stewart Ltd., License No. 4.

Purpose: Constructed to aid in determining the areal extent and seriousness of a chloride problem, and to evaluate the quality and quantity of the groundwater resources, in the Three Brooks area as reported by James G. Vaughan, 1976

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 79.26 feet above sea level (A.S.L.)

Constructed in April, 1975, the specifications for test hole 6 were; well depth 410 feet, casing length 300 feet, casing diameter 4 inches, and a penetration of 346 feet of bedrock. Surficial geology of the area classified as a till deposit of the Pleistocene Epoch characterized by the heterogeneous mixture of clay, silt, sand and gravel. The underlying bedrock has been identified as the Boss Point Formation of the Riversdale Group associated with the Pennsylvanian Period. Bedrock of this formation consisted of greenish grey and brownish red sandstones, siltstones and shale, with minor pebble and limestone pebble conglomerates (Bell, 1944) Test hole six was one of a series of three wells, each constructed to a different depth, to evaluate a correlation between chloride concentration and the depth of penetration in the Riversdale Group.

No pump test was conducted for test hole 6. However, results from the pump test conducted on Three Brooks test hole 4 (r = 20 ft.) stated values of 15.1 igpd/ft. for transmissibility and 0.5 igpm for the safe yield rate.

Permeability in the Riversdale Group was primarily of the secondary type transmitted through fractures and a long joint systems (Hennigar, 1972).

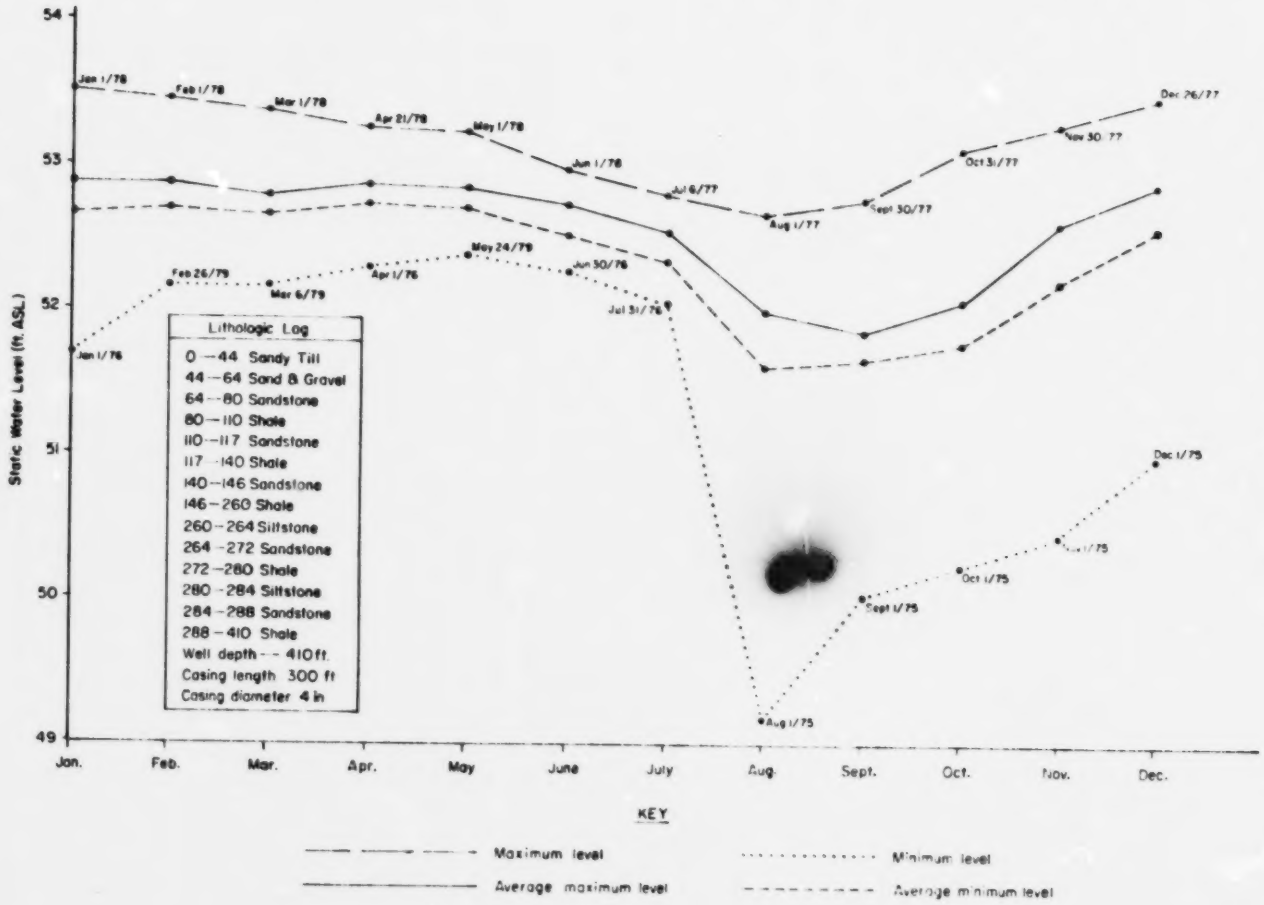
Monitoring equipment for test hole 6 was operative for 5 years, August, 1975 - August, 1980. During the period of observation the recorded high, 53.51 ft. (A.S.L.), occurred on January 1, 1978 and the recorded low, 49.17 ft. (A.S.L.), occurred on August 1, 1975. The annual water table fluctuation varied from 1.27 feet (difference, average maximum - average minimum) to 4.34 feet (difference, absolute- maximum - absolute minimum).

Missing Data Due To Malfunctions

1978 November high, low; December high, low.

THREE BROOKS 6 AUGUST, 1975 - AUGUST 1980
STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	52.86	52.86	52.78	52.86	52.85	52.73	52.54	51.99	51.85	52.06	52.59	52.88
AV. MIN. LEVEL	52.67	52.70	52.65	52.72	52.71	52.52	52.34	51.61	51.65	51.76	52.19	52.57
MAX. LEVEL	53.51	53.46	53.37	53.26	53.23	52.97	52.80	52.66	52.76	53.12	53.29	53.48
MIN. LEVEL	51.69	52.16	52.15	52.29	52.38	52.26	52.05	49.17	50.02	50.02	50.43	50.98
Dates												
MAX. LEVEL	1/78	1/78	1/78	21/78	1/78	1/78	6/77	1/77	30/77	31/77	30/77	26/77
MIN. LEVEL	1/76	26/79	6/79	1/76	24/79	30/76	31/76	1/75	1/75	1/75	1/75	1/75



THREE BROOKS 6 - N.S.D.O.E. OBSERVATION WELL 023, AUGUST 1975 - AUGUST 1980

THREE BROOKS - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 024

Map & File Number - 11-E-10-C-74
Nova Scotia Department of the Environment, "Groundwater Survey For Three Brooks, Pictou County, Test Hole 5.
Date Drilled: April 2, 1975, E. D. Stewart Ltd., License No. 4.

Purpose: Constructed to aid in determining the areal extent and seriousness of a chloride problem, and to evaluate the quality and quantity of the groundwater resources, in the Three Brooks area as reported by James G. Vaughan, 1976.

Pump Test:		
	duration	10 hrs.
	date started	April 28, 1975
	pumping rate	1 igpm
	status	pumping well
	transmissibility	T = 48.0 igpd/ft.
	safe yield	Q_s = 0.3 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 78.43 feet above sea level (A.S.L.).

Constructed in April, 1975, the specifications for test hole 5 were; well depth 64 feet, casing length 50 feet, and casing diameter 4 inches. Surficial geology of the area was classified as a till deposit of the Pleistocene Epoch characterized by a heterogeneous mixture of clay, silt, sand and gravel. Test hole five was one of a series of three wells, each constructed to a different depth, to evaluate a correlation between chloride concentration and the depth of penetration in the Riversdale Group.

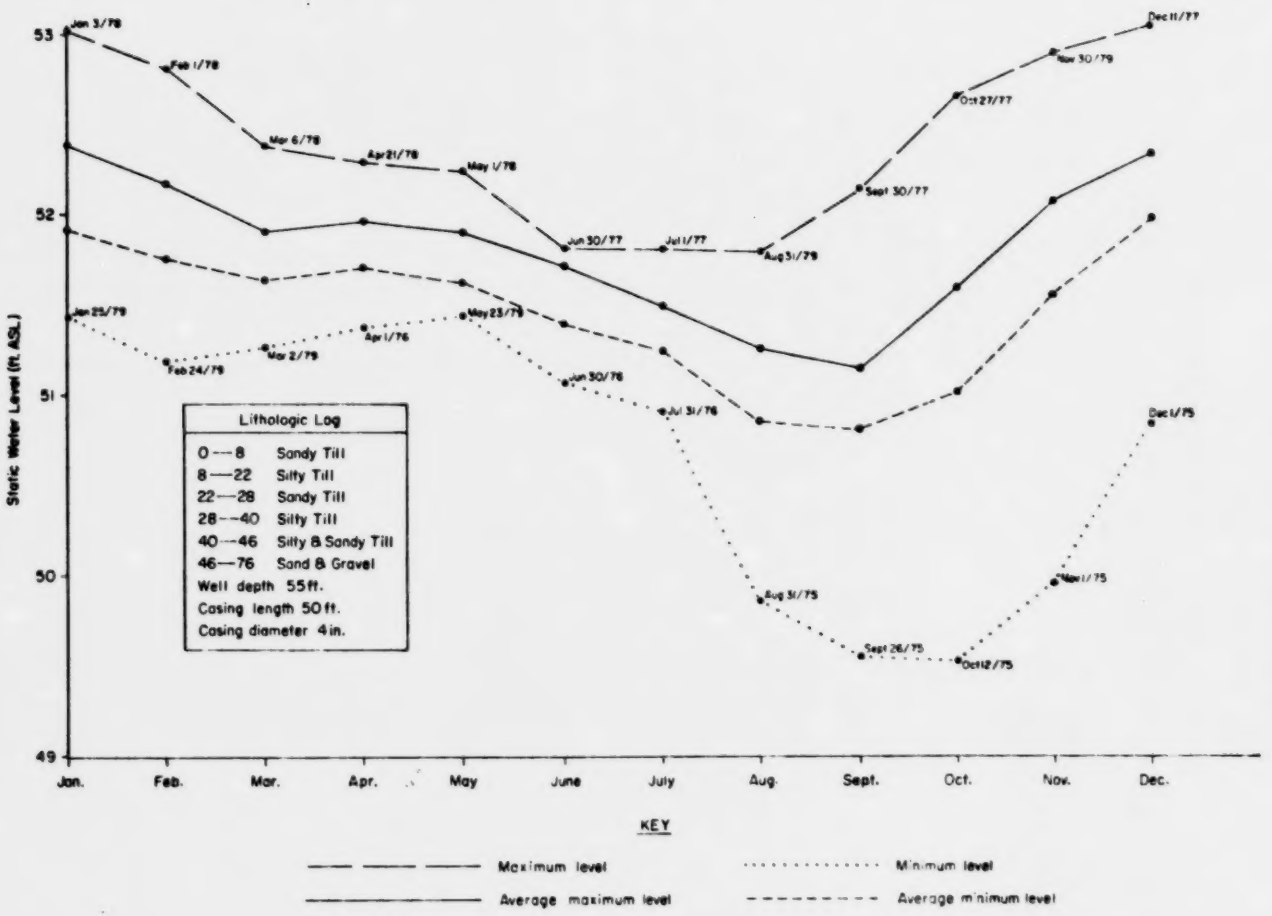
From the monitoring data of a 10 hour pump test conducted on test hole 5 transmissibility and the safe yield rate were calculated to be 48.0 igpd/ft. and 0.3 igpm respectively. Water movement through the till was dependent upon its composition. Sandy till allows movement through intergranular pore spaces, where as in clay or silt water is transmitted primarily through sandy lenses and joints in the till, (Trescott, 1968).

Water level fluctuations for test hole 5 have been monitored for 6 1/2 years, August 1975 - 1981. During the period of observation the recorded high, 53.07 ft. (A.S.L.), occurred on December 11, 1977, and the recorded low, 49.54 ft. (A.S.L.), occurred on October 12, 1975. The annual water table fluctuation varied from 1.58 feet (difference, average maximum - average minimum) to 3.53 feet (difference, abosolute maximums - absolute minimum). This test hole is still being monitored as part of the Nova Sctia Department of the Environment's Observation Well System.

THREE BROOKS 5 AUGUST, 1975 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	52.39	52.17	51.91	51.97	51.91	51.72	51.49	51.26	51.15	51.60	52.08	52.35
AV. MIN. LEVEL	51.92	51.76	51.64	51.73	51.63	51.40	51.25	50.86	50.81	51.02	51.56	51.98
MAX. LEVEL	53.02	52.81	52.38	52.30	52.25	51.82	51.81	51.80	52.15	52.67	52.91	53.07
MIN. LEVEL	51.43	51.18	51.27	51.38	51.44	51.07	50.91	49.86	49.55	49.54	49.96	50.85
Dates												
MAX. LEVEL	3/78	1/78	6/78	21/78	1/78	30/77	1/77	31/79	30/77	27/77	30/79	11/77
MIN. LEVEL	25/79	24/79	2/79	1/76	23/79	30/76	31/76	31/75	26/75	12/75	1/75	1/75



THREE BROOKS 5 – N.S.D.O.E. OBSERVATION WELL 024, AUGUST 1975 – 1981

THREE BROOKS - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 025

Map & File Number - 11-E-10-C-74
Nova Scotia Department of the Environment, "Groundwater Survey For Three Brooks, Pictou County", Test Hole 4
Date Drilled: March 24, 1975, E. D. Stewart Ltd., License No. 4

Purpose: Constructed to aid in determining the areal extent and seriousness of a chloride problem, and to evaluate the quality and quantity of the groundwater resources, in the Three Brooks area as reported by James G. Vaughan, 1976.

Pump Test:		
	duration	10 hrs.
	date started	April 24, 1975
	pumping rate	2.2 igpm
	status	pumping well
	transmissibility	T = 15.1 igpd/ft.
	safe yield	Q_s = 0.5 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68
Ground Level Elevation 78.58 feet above sea level (A.S.L.)

Constructed in March, 1975, the specifications for test hole 4 were; well depth 195 feet, casing length 100 feet, casing diameter 5 inches, and a penetration of 119 feet of bedrock. Surficial geology of the area was classified as a till deposit of the Pleistocene Epoch characterized by a heterogeneous mixture of clay, silt, sand, and gravel. The underlying bedrock has been identified as the Boss Point Formation of the Riversdale Group associated with the Pennyslvanian Period. Bedrock of this formation consisted

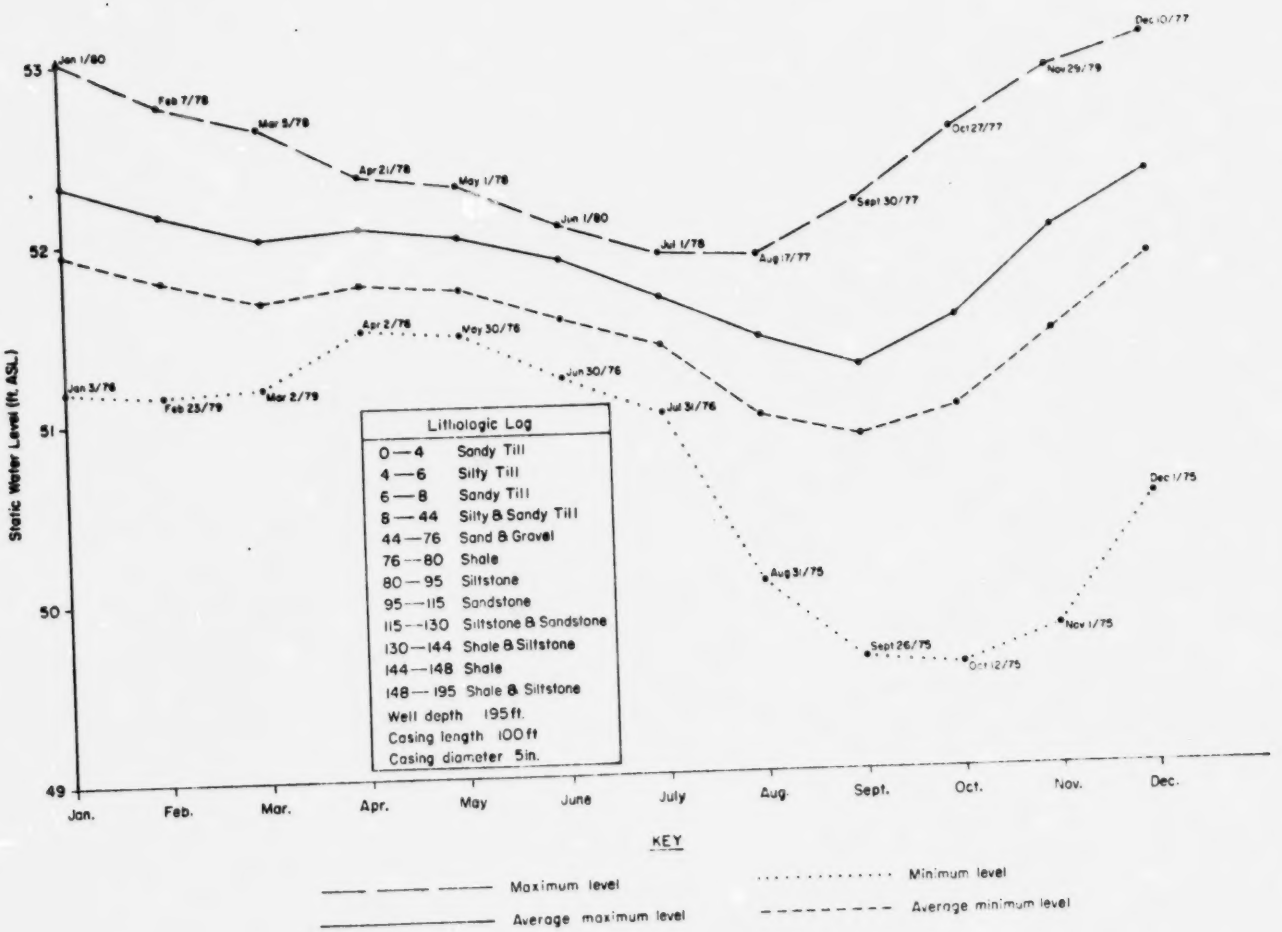
of greenish grey and brownish red sandstones, siltstones and shales with minor pebble and limestone pebble conglomerates (Bell, 1944). Test hole four was one of a series of three wells, each constructed to a different depth, to evaluate a correlation between chloride concentration and the depth of penetration in the Riversdale Group. Data collected from a 10 hour pump test conducted on test hole 4 concluded values of 15.1 igpd/ft. for transmissibility and a safe yield rate of 0.5 igpm. Permeability in the Riversdale Group was primarily of the secondary type transmitted through fractures and along joint systems (Hennigar, 1972).

Water level fluctuations for test hole 4 have been monitored for 6 1/2 years, August 1975 - 1981. During the period of observation the recorded high, 53.06 ft,. (A.S.L.), occurred on December 10, 1977, and the recorded low, 49.58 ft. (A.S.L.), occurred on October 12, 1975. The annual water table fluctuation varied from 1.47 feet (difference, average maximum - average minimum) to 3.48 ft. (difference, absolute, maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

THREE BROOKS 4 AUGUST 1975 - 1981

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MAPCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	52.33	52.16	52.01	52.06	52.00	51.87	51.65	51.42	51.25	51.51	51.99	52.29
AV. MIN. LEVEL	51.95	51.79	51.66	51.76	51.71	51.54	51.38	50.98	50.86	51.01	51.42	51.83
MAX. LEVEL	53.01	52.77	52.63	52.36	52.29	52.06	51.89	51.87	52.16	52.55	52.89	53.06
MIN. LEVEL	51.19	51.15	51.18	51.49	51.46	51.21	51.01	50.06	49.63	49.58	49.78	50.50
Dates												
MAX. LEVEL	1/80	7/78	5/78	21/78	1/78	1/80	1/77	17/77	30/77	27/77	29/79	10/77
MIN. LEVEL	3/76	23/79	2/79	2/76	30/76	31/76	31/76	31/75	26/75	12/75	1/75	1/75



THREE BROOKS 4 - N.S.D.O.E. OBSERVATION WELL 025, AUGUST 1975 - 1981

MONASTERY - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 028

Map & File Number - 11-F-12-A-91
Nova Scotia Department of Mines Test Hole 449

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported in "Strait of Canso Natural Environment Inventory Water Resources" commissioned by The Canada-Nova Scotia Strait of Canso Environment Committee, 1975.

Pump Test:		
	duration	50 hrs.
	date started	July 4, 1974
	pumping rate	40 igpm
	status	pumping well
	transmissibility	T = 660 igpd/ft.
	safe yield	Q_{20} = 67 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68

Surficial geology of the area in which test hole 449 was constructed classified as a clay till deposit. The overburden consisted of unconsolidated stoney, gritty clay to silt till. Underlying bedrock, Upper Mississippian terrestrial sedimentary rocks of the Canso Group, consisted of sandstones, shale, and conglomerates.

Results of a 50 hour pump test conducted on test hole 449 indicated values of 660 igpd/ft. for the coefficient of transmissibility and a twenty year safe yield rate of 67 igpm. Permeability in the Canso Group of sediments was of the secondary type resulting mainly fault planes and joint systems (Hennigar, 1972).

Available data, June 1976 - October 1979, indicated that the static water level in test hole 449 has varied as much as 13.30 feet (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

MONASTERY - N.S.D.O.E. 028
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 105.49 FEET ABOVE SEA LEVEL
(1976 - 1979)
(1976)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May		Start		
June	16	85.03	24	84.16
July	18	84.63	30	83.85
August	2	83.76	28	82.47
September	1	81.96	30	81.17
October	31	86.34	18	81.23
November	30	86.83	1	86.34
December	3	86.99	25	86.02

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM'
N/A	520	N/A	N/A

MONASTERY - N.S.D.O.E. 028
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 105.49 FEET ABOVE SEA LEVEL
(1976 - 1979)
(1977)

MONTH	DAY	HIGH	DAY	LOW
January	1	86.27	31	84.05
February	1	84.33	21	82.45
March	31	83.48	10	82.58
April	30	89.86	1	82.67
May	3	87.40	30	85.17
June	29	88.99	3	85.00
July	1	87.87	20	83.87
August	29	87.53	1	84.53
September	19	87.58	13	85.14
October	22	87.37	31	86.29
November	27	86.98	13	85.00
December	7	86.77	21	84.97

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

MONASTERY - N.S.D.O.E. 028
MONTHLY HIGH AND LOW STATIC WATER LEVELS READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 105.49 FEET ABOVE SEA LEVEL
(1976 - 1979)
(1978)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March		A		A
April	23	85.40	1	83.81
May	1	85.09	31	82.67
June	1	82.67	30	80.81
July	1	80.85	31	78.97
August	2	79.06	31	77.79
September		A		A
October	29	83.81	12	76.56
November	1	83.53	23	81.52
December	19	84.15	31	82.17

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

MONASTERY - N.S.D.O.E. 028
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 105.49 FEET ABOVE SEA LEVEL
(1976 - 1979)
(1979)

MONTH	DAY	HIGH	DAY	LOW
January	10	83.78	31	80.36
February	14	82.46	2	80.31
March	31	84.39	21	82.32
April	14	85.63	30	83.46
May	31	84.55	23	81.21
June	7	84.87	29	81.20
July	1	81.31	31	79.31
August	31	83.80	4	79.14
September	2	83.84	30	81.53
October	18	85.19	5	81.27
November		A		A
December		A		A

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

HAVRE BOUCHER - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 029

Map & File Number - 11-F-12-D-47
Nova Scotia Department of Mines Test Hole 457

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported in "Strait of Canso Natural Environment Inventory Water Resources" by The Canada-Nova Scotia Strait of Canso Environment Committee, 1975.

Monitoring Equipment: Stevens Type F Recorder, Model 68

Pump Test:		
	duration	90 hrs.
	date started	September 23, 1974
	pumping rate	25 igpm
	status	pumping well
	transmissibility	T = 260 igpd/ft.
	safe yield	Q_{20} = 28 igpm

Surficial geology of the area in which test hole 457 was constructed classified as a clay till deposit. The overburden consisted of unconsolidated stoney, gritty clay to silt till. Underlying bedrock, Upper Mississippian terrestial sedimentary rocks of the Canso Group, consisted of sandstones, shale, and conglomerates.

Results of a 90 hour pump test conducted on test hole 457 indicated values of 260 igpd/ft for the coefficient of transmissibility and a twenty year safe yield rate of 28 igpm. Permeability in the Canso Group of sediments was of the secondary type resulting from mainly fault planes and joint systems (Hennigar, 1972).

Available data, August 1976 - 1977, indicated that the water level in test hole 457 has varied as much as 73.00 feet (difference, absolute maximum - absolute minimum).

HAVRE BOUCHER - N.S.D.O.E. 029
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 513.93 FEET ABOVE SEA LEVEL
(1976 - 1977)
(1976)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June				
July		Start		
August	1	427.27	31	417.31
September	1	417.31	30	412.60
October	29	473.81	17	411.28
November	21	480.20	5	470.49
December	30	480.45	8	471.19

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM'
N/A	360	N/A	N/A

HAVRE BOUCHER - N.S.D.O.E. 029
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 513.93 FEET ABOVE SEA LEVEL
(1976 - 1977)
(1977)

MONTH	DAY	HIGH	DAY	LOW
January	12	479.19	25	460.42
February	1	476.90		B
March	31	477.35	10	452.50
April	26	481.50	1	477.35
May	1	479.18	29	462.82
June	8	480.40	3	462.90
July	1	473.85	31	436.61
August	29	459.41	17	431.01
September	18	468.24	15	447.59
October	22	483.58	1	463.70
November	28	479.85	12	462.55
December	27	484.28	6	476.85

A - No Records
B - Poor Records - FLoat Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

POINT ACONI - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 030

Map & File Number - 11-K-8-3-79

Date Drilled: August 11, 1976, Island Well Drillers, License No. 45

Purpose: To monitor groundwater levels near Devco's Prince Mine operations as per recommendation of the Nova Scotia Department of the Environment.

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in August, 1976, the specifications for observation well 030 were; well depth 100 feet, casing length 42 feet, casing diameter 6 inches, and a penetration of 86 feet of bedrock. Surficial geology of the area classified as a stoney clay till. Underlying bedrock, Inverness Formation of the Upper Pennsylvanian Pictou Group, consisted of sandstones, shale, conglomerate, and coal. Pump or bail tests results from fifty drilled wells in the area submitted by drillers, indicated an average well yield of 11.5 igpm for wells penetrating the Inverness Formation.

Available data, August, 1976 - October 1979, indicated that the static water level in observation well 030 may vary as much as 9.84 (difference, absolute maximum - absolute minimum). This observation well is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

POINT ACONI - N.S.D.O.E. 030
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 99.93 FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 101.98 ABOVE SEA LEVEL
(1976 - 1979)
(1976)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June				
July		Start		
August	18	94.06	30	93.52
September	27	94.87	10	94.32
October	31	99.36	8	93.98
November	21	96.68	17	96.25
December	3	96.35	7	95.87

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM'
0-14 clay & shale	100	42	6
14-100 sandstone			

POINT ACONI - N.S.D.O.E. 030
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 99.93 FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 101.98 ABOVE SEA LEVEL
(1976 - 1979)
(1977)

MONTH	DAY	HIGH	DAY	LOW
January	27	96.48	1	95.86
February	11	Overflow	10	100.32
March	1	Overflow	31	Overflow
April	1	Overflow	30	Overflow
May	1	Overflow	31	101.78
June	6	Overflow	5	101.78
July	1	101.98	31	99.86
August	28	100.68	17	99.08
September	1	100.36	13	99.24
October	6	101.08	1	100.00
November	27	101.04	12	99.38
December	11	100.90	31	100.02

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

POINT ACONI - N.S.D.O.E. 030
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 99.93 FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 101.98 ABOVE SEA LEVEL
(1976 - 1979)
(1978)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March		A		A
April	24	100.54	19	100.01
May	1	100.47	31	97.77
June	1	97.77	28	96.98
July	1	97.01	31	95.29
August	1	95.29	31	93.24
September	1	93.24	30	92.14
October	31	95.22	1	92.38
November	30	95.65	18	94.97
December	21	97.34	1	95.64

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

POINT ACONI - N.S.D.O.E. 030
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 99.93 FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 101.98 ABOVE SEA LEVEL
(1976 - 1979)
(1979)

MONTH	DAY	HIGH	DAY	LOW
January	31	97.82	1	96.71
February	2	97.89	28	94.50
March	27	97.12	1	94.50
April	14	97.37	30	96.18
May	31	97.04	21	95.38
June	6	97.31	30	94.62
July	1	94.62	31	93.46
August	22	95.08	1	93.44
September	1	94.62	22	93.23
October	18	96.38	1	93.48
November		A		A
December		A		A

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

POINT ACONI - N.S.D.O.E. 030
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 99.93 FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 101.98 ABOVE SEA LEVEL
(1976 - 1979)
(1978)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March		A		A
April	24	100.54	19	100.01
May	1	100.47	31	97.77
June	1	97.77	28	96.98
July	1	97.01	31	95.29
August	1	95.29	31	93.24
September	1	93.24	30	92.14
October	31	95.22	1	92.38
November	30	95.65	18	94.97
December	21	97.34	1	95.64

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

POINT ACONI - N.S.D.O.E. 030
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 99.93 FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 101.98 ABOVE SEA LEVEL
(1976 - 1979)
(1979)

MONTH	DAY	HIGH	DAY	LOW
January	31	97.82	1	96.71
February	2	97.89	28	94.50
March	27	97.12	1	94.50
April	14	97.37	30	96.18
May	31	97.04	21	95.38
June	6	97.31	30	94.62
July	1	94.62	31	93.46
August	22	95.08	1	93.44
September	1	94.62	22	93.23
October	18	96.38	1	93.48
November		A		A
December		A		A

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

CANADA - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 031

Map & File Number - 21-H-1-C-17-E
Nova Scotia Department of Mines Test Hole 250
Date Drilled: October 1, 1964, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Monitoring Equipment: Stevens Type F Recorder, Model 68
Elevation of Datum Point (top of casing) 81.54 feet above sea level (A.S.L.)

Constructed in October, 1964, the specifications for test hole 250 were; well depth 711 feet, casing length 20 feet, casing diameter 4.5 inches, and a penetration of 681 feet of bedrock. The surficial deposit of the area was identified as a till of the Pleistocene Epoch overlying bedrock classified as the Wolfville Formation of the Triassic Period.

No pump test was conducted on test hole 250, however data from three pump tests conducted on aquifers in the Wolfville Formation stated values of 1.5×10^{-4}, 2.0×10^{-4} and 1.8×10^{-4} for the coefficient of storage. The coefficients of transmissibility (igpd/ft.) were 6,400, 3,700 and 2,000 respectively (Trescott, 1968). Permeability in the Wolfville sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Water level monitoring equipment for test hole 250 was operative for approximately 4 1/2 years, February 1965 - July 1969. During the period of observation the recorded high, 50.60 ft. (A.S.L.), occurred on April 17, 1969 and the recorded low, 38.12 ft. (A.S.L.), occurred on September 22, 1968. The annual water table fluctuation varied from 9.06 feet (difference, average maximum - average minimum) to 12.48 feet (difference, absolute maximum - absolute minimum).

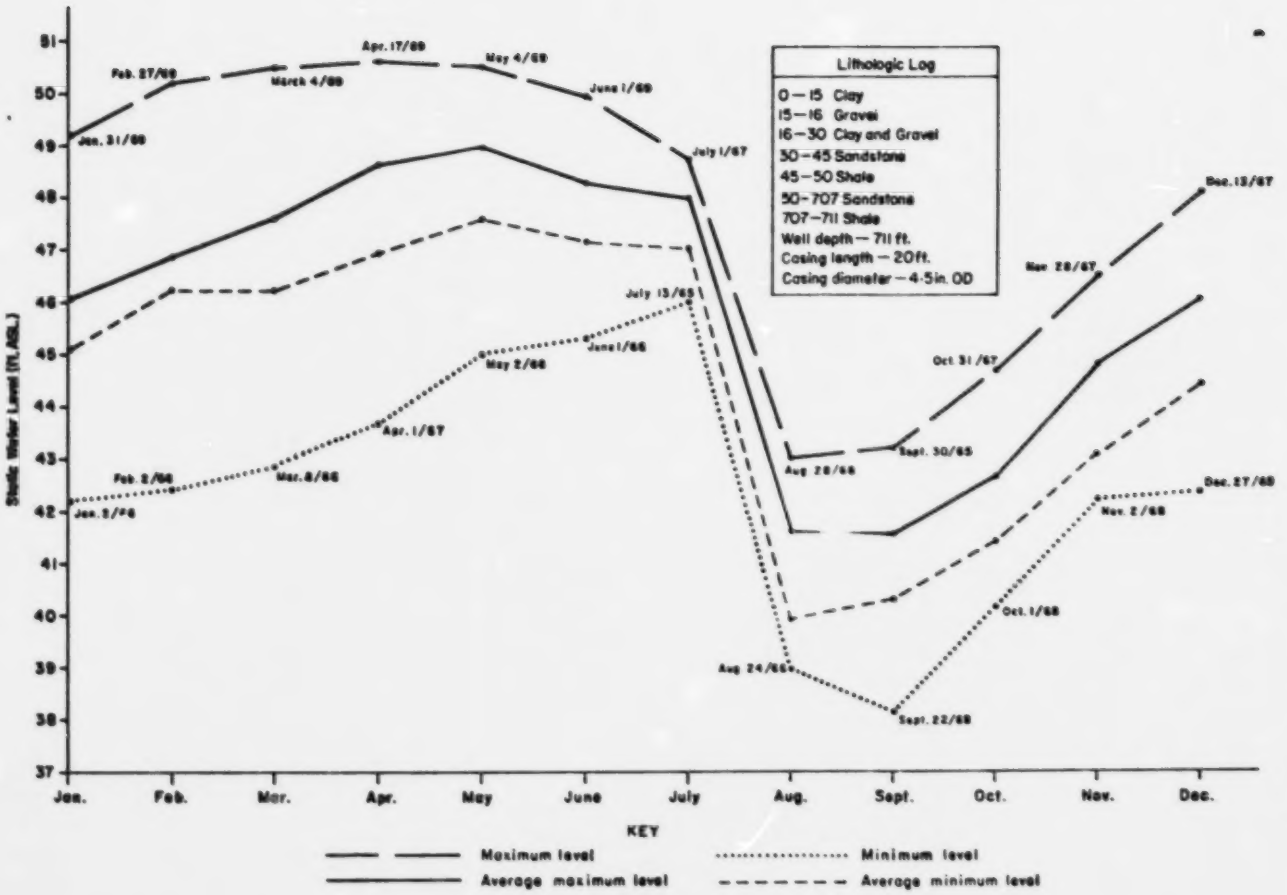
Missing Data Due to Malfunctions

1965	August High, Low
1966	July High, Low; November High, Low; December High, Low
1967	January High, Low; August High, Low; September High, Low
1968	January High, Low

CANNING FEBRUARY, 1965 - JULY, 1969

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	46.06	46.86	47.59	48.69	49.00	48.28	48.00	41.59	41.55	42.65	44.80	46.04
AV. MIN. LEVEL	45.12	46.22	46.21	46.96	47.62	47.17	47.05	39.94	40.27	41.37	43.08	44.47
MAX. LEVEL	49.19	50.21	50.50	50.60	50.51	49.98	48.77	43.00	43.20	44.68	46.51	48.11
MIN. LEVEL	42.21	42.44	42.85	43.70	45.00	45.31	46.00	38.99	38.12	40.16	42.20	42.32
Dates												
MAX. LEVEL	31/69	27/69	4/69	17/69	4/69	1/69	1/67	28/68	30/65	31/67	28/67	13/67
MIN. LEVEL	2/66	2/66	8/66	1/67	2/66	1/66	13/65	24/66	22/68	1/68	2/68	27/65



CANNING – N.S.D.O.E. OBSERVATION WELL 031, FEBRUARY 1965 – JULY 1969

BERWICK - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 032

Map & File Number - 21-H-2-A-36-0
Nova Scotia Department of Mines Test Hole 200
Date Drilled: July 7, 1964, Nova Scotia Department of Mines Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Monitoring Equipment: Stevens Type F Recorder, Model 68.
Elevation of Datum Point (top of casing) 146.86 feet above sea level (A.S.L.)

Constructed in July, 1964, the specifications for test hole 200 were; well depth 705 feet, casing length 84 feet, and a penetration of 675 feet of bedrock. The surficial deposit was that of a kame complex of the Pleistocene Epoch underlain by bedrock identified as the Wolfville Formation of the Triassic Period. The Wolfville Formation was composed of interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

No pump test was conducted on test hole 200; however, three pump tests conducted on aquifers in the Wolfville Formation produced values of 1.5×10^{-4}, 2.0×10^{-4}, and 1.8×10^{-4} for the coefficient of storage. Values for coefficient of transmissibility (igpd/ft.) were 6,400, 3,700 and 2,000 respectively (Trescott, 1968). Movement of water through the formation's sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints and along bedding plane fractures.

Monitoring equipment for the Berwick test hole was operative for nine years, 1965 - 1973. During the period of observation the recorded high static water

level, 141.12 feet (A.S.L.) occurred on March 16, 1965 and the recorded low static water level, 127,60 feet (A.S.L.), occurred on November 2, 1970. The annual water table fluctuation varied from 4.20 feet (difference, average maximum - average minimum) to 13.52 feet (difference absolute maximum - absolute minimum).

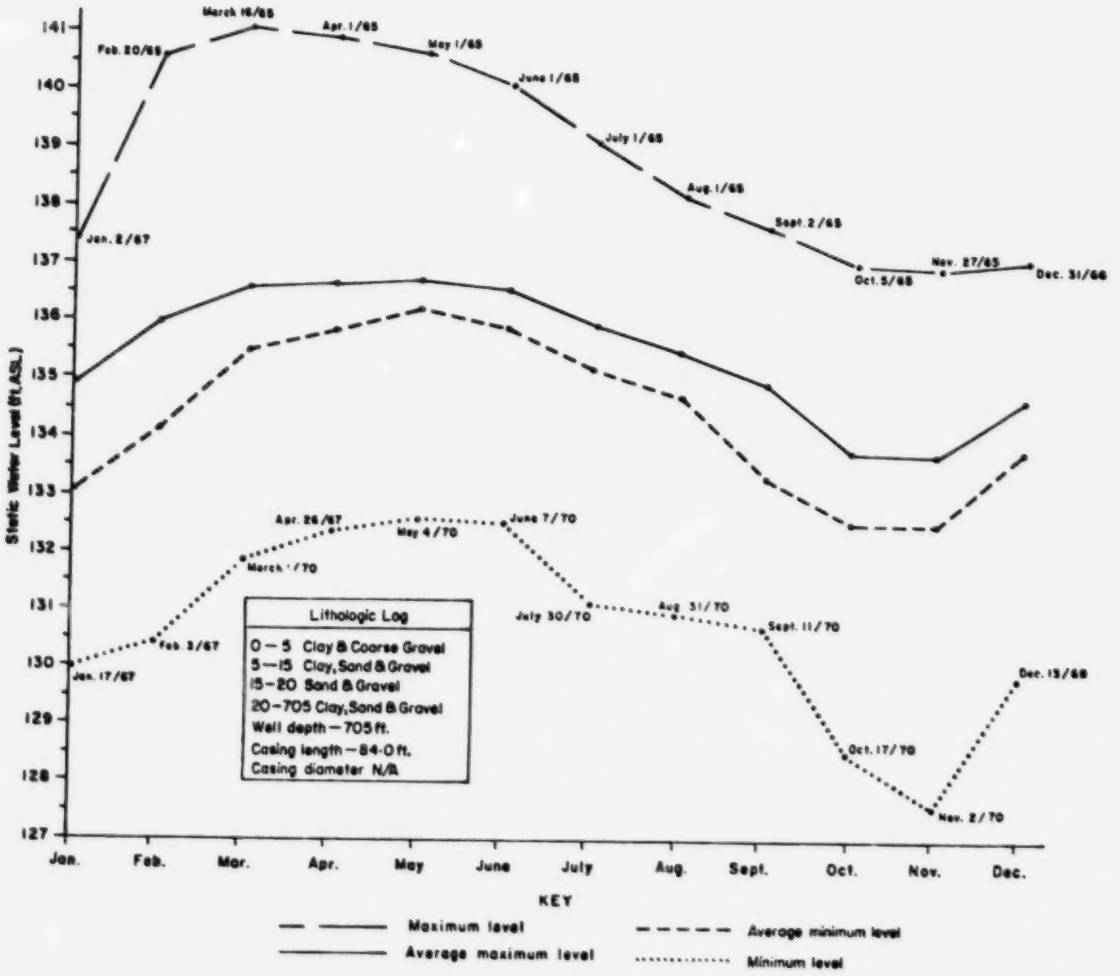
Missing Data Due to Malfunctions

1968	November high, low; December high, low.
1969	January high, low.
1971	December high, low.
1972	January high, low; February high, low; March high, low; December high, low.

BERWICK FEBRUARY, 1965 - AUGUST, 1973

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	134.93	136.03	136.60	136.69	136.77	136.61	136.03	135.55	135.03	133.83	133.80	134.74
AV. MIN. LEVEL	133.03	134.13	135.52	135.89	136.26	135.96	135.27	134.77	133.35	132.59	132.57	133.89
MAX. LEVEL	137.36	140.62	141.12	140.99	140.71	140.15	139.22	138.77	137.77	137.14	137.06	137.21
MIN. LEVEL	129.95	130.45	131.88	132.47	132.60	132.57	131.16	131.00	130.76	128.06	127.60	129.85
Dates												
MAX. LEVEL	2/67	20/65	16/65	1/65	1/65	1/65	1/65	1/65	2/65	5/65	27/65	31/66
MIN. LEVEL	17/67	3/67	1/70	20/70	4/70	7/70	30/70	31/70	11/70	17/70	2/70	13/69



BERWICK – N.S.D.O.E. OBSERVATION WELL 032, FEBRUARY 1965 – AUGUST 1973

SHEFFIELD MILLS - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 033

Map & File Number - 21-H-1-L-11-M
Nova Scotia Department of Mines Test Hole 135
Date Drilled: November 10, 1966, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Peter C. Trescott, 1968.

Pump Test:		
	duration	12 hr.
	date started	December 6, 1966
	pumping rate	200 igpm
	status	pumping well
	transmissibility	T = 5866 igpd/ft.
	safe yield	Q_s = 770 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68
Elevation of Datum Point (top of casing) 90.20 feet above sea level (A.S.L.)

Constructed in November, 1966, the specifications for test hole 135 were; well depth 301 feet, casing length 43 feet, casing diameter 4.5 inches, and a penetration of 267 feet of bedrock. The surficial geology of the area was classified as a till of the Pleistocene Epoch underlain by the Wolfville Formation of the Triassic Period. The Wolfville Formation was characterized by interbedded red and grey conglomerates, sandstones, siltstones, and claystones.

Test results from a 12 hour pump test conducted on test hole 135 indicated a value of 5866 igpd/ft. for the coefficient of transmissibility and a safe yield of 770 igpm., (Trescott, 1968). Permeability in the Wolfville

sandstones and conglomerates was primarily through intergranular pore spaces and only secondarily through joints.

During the 6 years, June 1967 - 1970, 1972 - July 1974, the water level monitoring equipment was operative for test hole 135 the recorded high, 58.69 ft. (A.S.L.), occurred on April 15, 1974, and the recorded low, 45.72 ft. (A.S.L.), occurred on July 21, 1967. The annual water table fluctuation varied from 5.68 feet (difference, average maximum - average minimum) to 12.97 feet (difference, absolute maximum - absolute minimum).

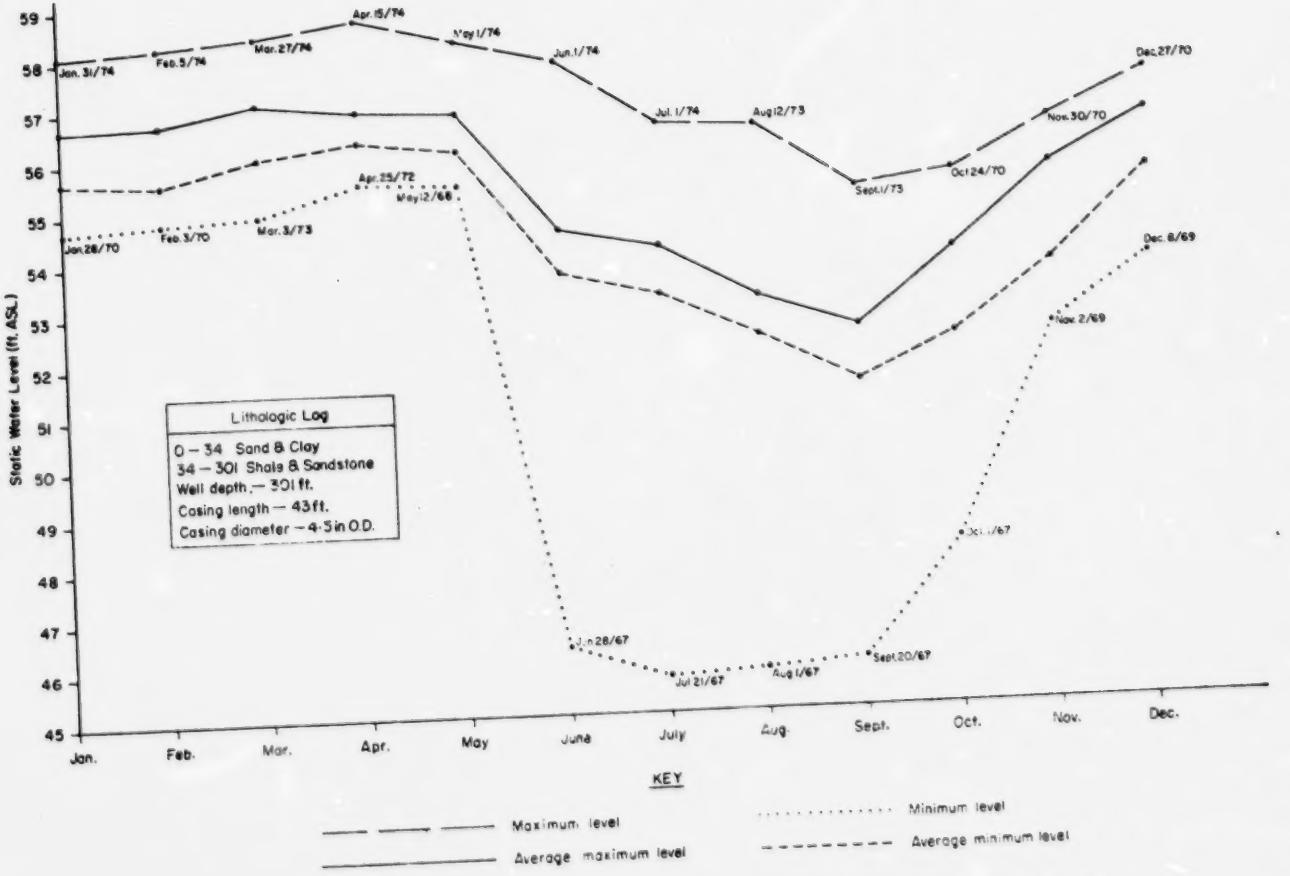
Missing Data Due To Malfunctions

1968	December High, Low
1969	January High, Low; February High, Low; March High, Low; April High, Low; May High, Low
1970	April High, Low; May High, Low; June High, Low; September High, Low
1972	January High, Low; February High, Low; March High, Low; December High, Low
1973	November High, Low; December High, Low

SHEFFIELD MILLS JUNE 1967-1970, 1972 - JULY 1974

STATIC WATER LEVEL READINGS IN FEET ABOVE SEA LEVEL

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
AV. MAX. LEVEL	56.72	56.71	57.09	56.98	56.85	54.51	54.14	53.15	52.46	53.94	55.53	56.49
AV. MIN. LEVEL	55.64	55.55	56.01	56.32	56.10	53.67	53.19	52.34	51.41	52.27	53.64	55.40
MAX. LEVEL	58.12	58.23	58.40	58.69	58.25	57.80	56.55	56.45	55.20	55.47	56.46	57.30
MIN. LEVEL	54.68	54.78	54.90	55.50	55.39	46.34	45.72	45.80	46.00	48.30	52.40	53.69
Dates												
MAX. LEVEL	31/74	5/74	27/74	15/74	1/74	1/74	1/74	12/73	1/73	24/70	30/70	27/70
MIN. LEVEL	28/70	3/70	3/73	25/72	12/68	28/67	21/67	1/67	20/67	1/67	2/69	8/69



SHEFFIELD MILLS – N.S.D.O.E. OBSERVATION WELL 033, JUNE 1967–1970, 1972 – JULY 1974

OXFORD - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 034

Map & File Number - 11-E-12-C-92-0
Date Drilled: 1942

Purpose: A water level recorder was installed to aid in monitoring the static water level of the bedrock aquifer supplying the municipal wells.

Monitoring Equipment: Stevens Type F Recorder, Model 68

Surficial geology of the area in which observation well 034 was constructed classified as a sandy till deposit. Underlying bedrock, Claremont Formation of the Lower Pennsylvanian Riversdale Group, consisted primarily of conglomerate with some sandstone and shale.

Located within a 300 yard radius of observation well 034 were the five drilled wells servicing the Town of Oxford's water sypply system. During May, 1968, a 72 hour pump test was conducted on each of the five wells. Listed below are the coefficient of transmissibility and the twenty year safe yield rate concluded from those tests.

Well No	T igpd/ft.	Q_{20} igpm
1	510	20
2	580	70
3	1300	100
4	820	85
5	2000	175

OXFORD - N.S.D.O.E. 034

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE SEA LEVEL

DATUM POINT (TOP OF CASING) 119.80 FEET ABOVE SEA LEVEL

(1967 - 1969)

(1967)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June		Start		
July	1	113.16	30	106.13
August	10	109.03	31	107.70
September		C		C
October	31	106.38	14	102.41
November	28	116.79	1	106.37
December		Overflow	4	114.81

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH.'	CASING DIAM'
N/A	200	40	6

OXFORD - N.S.D.O.E. 034

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE SEA LEVEL

DATUM POINT (TOP OF CASING) 119.80 FEET ABOVE SEA LEVEL

(1967 - 1969)

(1968)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March		A		A
April		A		A
May	4	116.21	19	111.20x
June		A		A
July		A		A
August		A		A
September	1	106.53	30	105.18
October		A	10	104.57
November	30	118.90		A
December		Overflow	13	118.37

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - Pump Test Conducted (Other)

OXFORD - N.S.D.O.E. 034
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 119.80 FEET ABOVE SEA LEVEL
(1967 - 1969)
(1969)

MONTH	DAY	HIGH	DAY	LOW
January		A		A
February		A		A
March		A		A
April		A		A
May		A		A
June	1	114.42	30	111.09
July	1	111.09	31	107.87
August	1	107.87		B
September	1	91.80	27	81.28x
October	10	87.40x	31	81.05x
November		End		
December				

A - No Records
B - Poor Records - Float Stuck
C - No Records - Tape Stopped
V - No Records - Vandalism
X - Pump Test Conducted (Other)

MURRAY SIDING - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 035

Map & File Number - 11-E-6-A-107-K
Nova Scotia Department of Mines Test Hole 189
Date Drilled: August 1, 1967, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the elevation of the occurrence, quality and quantity of groundwater as reported by Terry W. Hennigar, 1972.

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in August, 1967, specifications for test hole 189 were; well depth 25 feet, casing length 22 feet, casing diameter 6 inches, and a penetration of 13 feet of bedrock. Surficial geology of the area classified as a stream alluvium of the Quaternary Period. The deposit consisted of an upper layer of clastic sediment overlying buried channels filled with outwash sands and gravel. Underlying bedrock, Wolfville Formation of the Triassic Period, was characterized by interbedded roundstone and sharpstone conglomerate and coarse and medium grained sandstone (Hennigar, 1972).

Test hole 189 was one of three test holes used as an observation well during the 80 hour pump test conducted on test hole 368 (r = 742"). Pump test data stated values of 45,000 igpd/ft. for transmissibility, 8.7×10^{-2} for the coefficient of storativity and 2500 igpd/sq. ft. for the average coefficient of permeability (Hennigar, 1972). The pump test conducted on test hole 368 was for analysis of the sand and gravel aquifer adjacent to the Salmon River.

MURRAY SIDING - N.S.D.O.E. 035
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 81.36 FEET ABOVE SEA LEVEL
(1967 - 1968)
(1967)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June				
July		Start		
August	9	73.90	31	71.16
September	13	71.35	30	70.78
October	13	72.83	9	70.63
November	27	73.88	11	71.39
December	31	73.31	22	71.76

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH.'	CASING DIAM."
0-3 red clay & topsoil	25	22	6
3-10 fine to medium gravel			
10-12 fine to coarse gravel			
12-25 bedrock			

MURRAY SIDING - N.S.D.O.E. 035

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE SEA LEVEL

DATUM POINT (TOP OF CASING) 81.36 FEET ABOVE SEA LEVEL

(1967 - 1968)

(1968)

MONTH	DAY	HIGH	DAY	LOW
January	16	73.21	5	72.30
February	6	72.55	29	71.33[X]
March	16	74.42	1	71.31[X1]
April	1	72.61	26	71.41
May	1	71.65	31	70.76
June	23	70.96	14	70.51
July	1	70.79	31	70.21
August		End		
September				
October				
November				
December				

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - Pump Test (Other)

X_1 - Pump Test Recently Completed

MURRAY SIDING - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 036

Map & File Number - 11-E-6-A-107-K
Nova Scotia Department of Mines Test Hole 190
Date Drilled: August 2, 1967, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar (1972).

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in August, 1967, specifications for test hole 190 were; well depth 30 feet, casing length 22 feet, casing diameter 6 inches, and a penetration of 10 feet of bedrock, surficial geology of the area classified as a stream alluvium of the Quaternary Period. The deposit consisted of an upper layer of clastic sediment overlying buried channels filled with outwash sands and gravel. Underlying bedrock, Wolfville Formation of the Triassic Period, is characterized by interbedded roundstone and sharpstone conglomerate and coarse and medium grained sandstone (Hennigar, 1972).

Test hole 190 was one of three test holes used as an observation well during the 80 hour pump test conducted on test hole 368 (r = 660'). Pump test data stated values of 45,000 igpd/ft. for transmissibility, 8.7×10^{-2} for the coefficient of storativity and 2500 igpd/sq. ft. for the average coefficient of permeability (Hennigar, 1972). The pump test conducted in test hole 368 was for analysis of the sand and gravel aquifer adjacent to the Salmon River.

MURRAY SIDING - N.S.D.O.E. 036
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 81.59 FEET ABOVE SEA LEVEL
(1967 - 1968)
(1967)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June				
July		Start		
August	14	74.54	27	74.41
September	12	75.11	1	74.44
October	12	75.89	9	74.50
November	26	75.84	4	75.13
December	29	76.48	22	75.30

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH.'	CASING DIAM'
0-20 sand & gravel	30	22	6
20-30 sandstone			

MURRAY SIDING - N.S.D.O.E. 036

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE SEA LEVEL

DATUM POINT (TOP OF CASING) 81.59 FEET ABOVE SEA LEVEL

(1967 - 1968)

(1968)

MONTH	DAY	HIGH	DAY	LOW
January	1	76.22	15	75.23
February	5	75.49	29	74.[illegible]X
March	17	76.42	1	74.67X1
April	1	75.69	26	75.01
May	1	75.15	31	74.58
June	24	74.59	14	74.41
July	1	74.54	31	74.21
August		End		
September				
October				
November				
December				

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - Pump Test (Other)

X_1 - Pump Test Recently Completed

ANTIGONISH - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 037

Map & File Number - 11-F-12-C-12-E
Nova Scotia Department of Mines "Hydrogeology of the Rights River Alluvial Aquifer, Antigonish, Nova Scotia" Site 1.
Date Drilled: March, 1968, Hopper Bros. Ltd. License No. 20

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by George F. Pinder and Peter C. Trescott, 1968.

Pump Test:		
	duration	72 hr.
	date started	April 3, 1968
	pumping rate	205 igpm
	status	observation well
	transmissibility	T = 78,000 igpd/ft.
	storativity	$S = 1.7 \times 10^{-3}$

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in March, 1968, site 1 penetrated approximately 37 feet of overburden before bedrock was encountered. The surficial geology of the area was described as a glaciofluvial deposit of the Pleistocene Epoch. The fluvial deposit was characterized by poor to well-sorted stratified sands and gravels.

The test well for site 1 was one of three constructed to aid in the groundwater yield evaluation of the glaciofluvial deposit adjacent to Rights

River. A 72 hour pump test was conducted on pumping well 2 which penetrated the Rights River sand and gravel aquifer. Water levels for site 1 were monitored during the pump test to aid in the evaluation of the aquifer. Analysis of the data collected at site 1 concluded values of 78,000 igpd/ft. for the coefficient of transmissibility and 1.7×10^{-3} for the coefficient of storativity (Pinder and Trescott, 1968).

ANTIGONISH - N.S.D.O.E. 037

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE SEA LEVEL

DATUM POINT (TOP OF CASING) 25.67 FEET ABOVE SEA LEVEL

(1968 - 1969)

(1968)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May		Start		
June	20	22.90	12	22.04
July	1	22.30	31	21.51[X]
August	31	Overflow	15	21.50[X1]
September	1	Overflow	23	21.92
October	26	23.92	20	22.00
November	26	25.06	7	22.56
December	16	25.00	11	22.70

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - Pump Test conducted (Other)

X_1 - Pump Test completed 6 days previous

Lithologic Log'	Well Depth'	Casing Lgth.'	Casing Diam."
0-5 glacial till	N/A	31	8
5-27 sand and gravel			
27-32 coarse gravel			
32-37 medium to coarse gravel			
37 bedrock			

ANTIGONISH - N.S.D.O.E. 037

MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS

IN FEET ABOVE SEA LEVEL

DATUM POINT (TOP OF CASING) 25.67 FEET ABOVE SEA LEVEL

(1968-1969)

(1969)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May		Start		
June	19	23.44	30	22.03
July	14	22.92	27	21.74
August	5	22.58	25	21.70
September		End		
October				
November				
December				

A - No Recordds

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

ANTIGONISH - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 038

Map & File Number - 11-F-12-C-12-E
Nova Scotia Department of Mines "Hydrogeology of the Rights River Alluvial Aquifer, Antigonish, Nova Scotia" Site 3
Date Drilled: March, 1968, Hopper Bros. Ltd., License No. 20

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by George F. Pinder and Peter C. Trescott, 1968.

Pump Test:		
	duration	72 hr.
	date started	April 3, 1968
	pumping rate	205 igpm
	status	observation well
	transmissibility	T = 102,000 igpd/ft.
	storativity	$S = 3.7 \times 10^{-4}$

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in March, 1968, site 3 penetrated approximately 45 feet of overburden before bedrock was encountered. The surficial geology of the area was described as a glaciofluvial deposit of the Pleistocene Epoch. The deposit was characterized by poor to well-sorted stratified sands and gravels.

The test well for site 3 was one of three constructed to aid in the groundwater yield evaluation of the glaciofluvial deposit adjacent to Rights River. A 72 hour pump test was conducted on pumping well 2 which penetrated the Rights River sand and gravel aquifer. Water levels for site 3 were monitored during the pump test to aid in the evaluation of the aquifer. Analysis of the data collected at site 3 concluded values of 102,000 igpd/ft. for the coefficient of transmissibility and 3.7×10^{-4} for the coefficient of storativity (Pinder and Trescott, 1968).

The available recorded water level fluctuations, June 1968 - August 1969, for the well at site 3 indicates an annual variation of 5.13 feet (difference, absolute maximum - absolute minimum).

ANTIGONISH - N.S.D.O.E. 038
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT(TOP OF CASING) 25.67 FEET ABOVE SEA LEVEL
(1968-1969)
(1968)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May		Start		
June	1	18.24	28	17.68
July	1	17.86	31	15.44
August	31	19.78	2	15.43
September	1	18.75	26	17.49
October	26	18.78	16	17.44
November	26	20.56	7	18.09
December	30	20.34	23	18.89

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG '	WELL DEPTH'	CASING LGTH'	CASING DIAM'
0-5 glacial till	N/A	31	8
5-30 coarse gravel			
30-40 medium to coarse gravel			
40-45 fine gravel, 45 bedrock			

ANTIGONISH - N.S.D.O.E. 038
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT(TOP OF CASING) 25.67 FEET ABOVE SEA LEVEL
(1968-1969)
(1969)

MONTH	DAY	HIGH	DAY	LOW
January	1	20.42	24	18.36
February	4	19.63	28	18.02
March	26	19.55	21	17.64
April	19	19.55	4	18.50
May	1	19.39	31	17.94
June	19	18.33	30	17.52
July	14	17.67	27	17.08
August	7	17.54	25	16.95
September		End		
October				
November				
December				

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

MUSQUODOBOIT HARBOUR - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 039

Map & File Number - 11-D-14-A-41-B
Nova Scotia Department of Mines Test Hole 194
Date Drilled: August 7, 1967, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Chang L. Lin, (1970) and G. Pinder, (1968).

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in August 1967, the specifications for test hole 194 were; well depth 75 feet and a penetration of approximately 10 feet of bedrock. Surficial geology of the area classified as a glaciofluvial deposit of the Pleistocene Epoch. The fluvial deposit was characterized by poor to well-sorted stratified sands and gravel.

A 36 hour pump test was conducted on a well penetrating the Musquodoboit Harbour sand and gravel aquifer to aid in the evaluation of the supply potential of the aquifer. Data from the investigation stated values of 150,000 igpd/ft. for the coefficient of transmissibility and 7×10^{-2} for the coefficient of storativity (Pinder, 1968).

MUSQUODOBOIT HARBOUR - N.S.D.O.E. 039
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 20.80 FEET ABOVE SEA LEVEL
(1968)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April		Start		
May	1	A	27	15.42
June	23	16.57	31	14.86
July	1	15.77	14	14.13
August	1	15.60	31	13.06
September	18	13.06	30	12.13
October	31	12.72	1	12.28
November		13.22	21	11.89
December		End		

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'

0-5 medium to coarse sand
5-30 fine sand to fine gravel
30-65 medium sand to coarse gravel
65-75 bedrock

WELL DEPTH'	CASING LGTH'	CASING DIAM'
75	N/A	N/A

MUSQUODOBOIT HARBOUR - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 040

Map & File Number - 11-D-14-A-41-B
Nova Scotia Department of Mines, Test Hole 195
Date Drilled: August 8, 1967, Nova Scotia Department of Mines, Rig No. 53

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Chang L. Lin, (1970) and G. Pinder, (1968).

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in August, 1967, the specifications for test hole 195 were; well depth 60, casing length 29 feet, casing diameter 4.5 inches, and a penetration of 6 feet of bedrock. Surficial geology of the area classified as a glaciofluvial deposit of the Pleistocene Epoch. The fluvial deposit was characterized by poor to well-sorted stratified sands and gravels.

A 36 hour pump test was conducted on a well penetrating the Musquodoboit Harbour sand and gravel aquifer to aid in the evaluation of the supply potential of the aquifer. Data from the investigation stated values of 150,000 igpd/ft. for the coefficient of transmissibility and 7×10^{-2} for the coefficient of storativity (Pinder, 1968).

MUSQUODOBOIT HARBOUR - N.S.D.O.E. 040
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 27.29 FEET ABOVE SEA LEVEL
(1968)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March		Start		
April	30	20.63	25	19.41
May	8	20.60	31	18.81
June	22	19.78	13	18.00
July	1	19.53	31	17.00
August	1	17.00	29	16.14
September	16	16.77	27	16.34
October	29	17.30	21	15.94
November		End		
December				

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

Lithologic Log'	Well Depth'	Casing Lgth.'	Casing Diam."
0-3 till 3-5 grey clay 5-54 sand & gravel 54-60 bedrock	60	29	4 1/2 O.D.

MUSUODOBOIT HARBOUR - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 041

Map & File Number - 11-D-14-A-41-B
Nova Scotia Department of Mines Test Hole 197
Date Drilled: August 9, 1967, Nova Scotia Department of Mines, Rig No. 5

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Chang L. Lin, 1970 and G. Pinder, 1968.

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in August, 1967, test hole 197 penetrated approximately 71 feet of overburden before bedrock was encountered. Surficial geology of the area classified as a glaciofluvial deposit of the Pleistocene Epoch. The fluvial deposit was characterized by poor to well-sorted stratified sands and gravels.

A 36 hour pump test was conducted on a well penetrating the Musquodoboit Harbour sand and gravel aquifer to aid in the evaluation of the supply potential of the aquifer. Data from the investigation stated values of 150,000 igpd/ft. for the coefficient of transmissibility and 7×10^{-2} for the coefficient of storativity (Pinder, 1968).

MUSQUODOBOIT HARBOUR N.S.D.O.E. 041
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
DATUM POINT (TOP OF CASING) 23.50 FEET ABOVE SEA LEVEL

(1968)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March		Start		
April	11	20.70	26	19.55
May	8	20.58	31	19.10
June	23	19.75	14	18.20
July	2	19.67	31	17.10
August	1	17.10	30	16.18
September	17	16.75	30	16.27
October	31	17.24	21	15.98
November		End		
December				

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM'
0-30 fine to medium gravel	N/A	N/A	N/A
30-45 coarse sand to fine gravel			
45-71 medium sand to medium gravel			
71- bedrock			

SABLE ISLAND 17 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 042

Nova Scotia Department of the Environment "Water Resources and Environment Geology of Sable Island, Nova Scotia", Test Hole 17.
Date Drilled: August 27, 1971, Geophysical Service Incorporated.

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by Terry W. Hennigar, 1976.

Monitoring Equipment: Stevens Type F Recorder, Model 68.

Constructed in August, 1971, test hole 17 was washed-in to a depth of 100 feet. Test hole 17 was one of the four wells chosen for groundwater level fluctuation monitoring from the fifty wells constructed for the project's test drilling programs. The surficial geology of the area was described as unconsolidated sand deposits of the Quaternary Period, estimated to be 1,000 feet deep. Particle size of the sandy deposit ranged from about 0.003 to 0.07 of an inch in diameter. Pump test analysis from other wells constructed in the interbedded aeolian and beach sands of Sable Island stated values of 31,000 igpd/ft. for the mean coefficient of transmissibility and 0.36 as the mean coefficient of storativity (Hennigar, 1976).

SABLE ISLAND - N.S.D.O.E. 042
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE CHART DATUM

(1972)

MONTH	DAY	HIGH	DAY	LOW
January	15	2.80	2	1.25
February	18	2.75	12	0.89
March	25	2.41	12	0.93
April	9	2.57	30	0.97
May	10	2.62	9	0.84
June	11	1.67	19	0.71
July		C		C
August		C		C
September	12	2.89	1	1.76
October		End		
November				
December				

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

Lithologic Log'	Well Depth'	Casing Length'	Casing Diameter"
0-100 fine to medium sand	100	33' X 4"	4
		64' X 1 1/4"	1 1/4
		3' of 10 Slot Screen	

LAWRENCETOWN L3 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 043

Map & File Number - 11-D-11-C-20
Nova Scotia Department of the Environment, Test Drilling Program, Upper Lawrencetown, Halifax County, Test Hole L3
Date Drilled: March 16, 1977, H. J. Edwards Ltd., License No. 83

Purpose: Constructed to aid in the evaluation of; geological factors related to the salt water intrusion problem, the geochemistry of intrusion, and the position of the salt water/fresh water interface, in the Lawrencetown area. Conclusions reported in "Test Drilling Program, Upper Lawrencetown, Halifax County" by Heather J. Cross, 1980.

Pump Test:		
	duration	1.5 hr.
	date started	
	pumping rate	8 igpm
	status	pumping well
	transmissibility	T = 185.3 igpd/ft.
	safe yield	Q_s = 14.5 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in March 1977, the specifications for test hole L3 were; well depth 174 feet, casing length 145 feet, casing diameter 6 inches, and a penetration of 162 feet of bedrock. Surficial geology of the area consisted of an upper layer of clastic sediment overlying a bouldery soil. Underlying bedrock has been identified as the Goldenville Formation of the Lower Ordovician Meguma Group. The formation was composed mostly of greywacke, quartzite and to a lesser degree slate.

The drilling program at Lawrencetown was undertaken to develop two piezometer nests, L1 and L2, L3 and L4. Observation wells L1 and L2 were located 50 feet from mean sea level and L3 and L4 were constructed 100 feet inland from the first. Each piezometer nest consisted of one well drilled to a depth of approximately 200 feet with approximately 140 feet of 6 inch casing and the other well drilled to a depth of approximately 75 feet with approximately 22 feet of 6 inch casing. The positioning and specifications of the wells were to enable a two dimensional analysis of the geochemistry and the salt water/fresh water interface.

Drawdown data from a 1 1/2 half hour pump test conducted on test hole L3 indicated values of 185.3 igpd/ft. for the coefficient of transmissibility and 14.5 igpm for the safe yield rate. Permeability in the metamorphic rock was of the secondary type, transmitted through fractures and along joint systems.

Available data indicated that the water table may fluctuate 4.18 feet annually (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

LAWRENCETOWN - N.S.D.O.E. 043

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 6 FT. A.S.L. (APPROXIMATELY)

(1978 - 1981)

(1978)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May				
June		Start		
July	18	4.49	31	5.26
August	3	4.82	31	5.98
September	12	4.65	6	6.07
October	16	3.60	5	5.22
November	30	3.88	27	4.78
December	18	2.79	12	4.29

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM''
0-5 sand & gravel	174	145	6
5-12 boulders & brkn bedrock			
12-152 quartzite; 152-165 slate			
165-174 quartzite			

LAWRENCETOWN - N.S.D.O.E. 043

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READING ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 6 FT. A.S.L. (APPROXIMATELY)

(1978 - 1981)

(1979)

MONTH	DAY	HIGH	DAY	LOW
January	29	1.89	20	4.19
February	27	2.75	23	4.91
March	12	2.55	30	4.25
April	10	2.96	29	4.49
May	31	3.17	15	4.61
June	6	3.15	30	4.85
July	6	4.01	1	4.90
August	5	3.02	31	4.60
September	23	3.80	14	4.90
October	8	2.97	1	4.43
November	14	2.50	2	4.02
December	26	2.65	5	4.19

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

LAWRENCETOWN - N.S.D.O.E. 043

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 6 FT. A.S.L. (APPROXIMATELY)

(1978 - 1981)

(1980)

MONTH	DAY	HIGH	DAY	LOW
January	20	3.10	10	4.39
February	1	3.98	14	4.68
March	15	3.00	1	4.63
April	23	2.58	30	3.95
May	9	2.99	31	4.54
June	16	3.62	29	4.41
July		A		A
August		A		A
September		A		A
October	26	3.00	17	4.03
November	30	2.64	3	4.13
December	4	2.57	21	4.30

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

LAWRENCETOWN - N.S.D.O.E. 043

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 6 FT. A.S.L. (APPROXIMATELY)

(1978 - 1981)

(1981)

MONTH	DAY	HIGH	DAY	LOW
January	10	2.82	25	4.22
February		V		V
March		A		A
April		A		A
May		A		A
June		A		A
July	21	4.78	13	6.07
August	17	4.63	6	6.02
September		A		A
October	8	4.85	6	5.85
November	21	3.40	30	5.79
December	16	3.60	1	5.84

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

OAKFIELD PARK - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 044

Map & File Number - 11-D-13-D-47
Nova Scotia Department of Lands & Forest Test Hole
Date Drilled: September 9, 1973, H. F. Verge Ltd., License No. 13

Purpose: Constructed as water supply source for Oakfield Provincial Park.

Pump Test:	duration	72 hrs.
	date started	October 19, 1973
	pumping rate	3 igpm
	status	pumping well
	transmissibility	T = 26 igpd/ft.
	safe yield	Q_{20} = 1.5 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in September, 1973, the specifications for observation well 044 were; well depth 225 feet, casing length 157 feet, casing diameter 6 inches, and a penetration of 69 feet of bedrock. Surficial geology of the area classified as a predominantly clay till of the Pleistocene Epoch. The underlying bedrock has been identified as the Goldenville Formation of the Meguma Group associated with the Cambrian Period (R. R. Stea and J. H. Fowler, 1980).

Data collected during a 72 hour pump test conducted on observation well 044 concluded values of 26 igpd/ft. for the coefficient of transmissibility and a twenty year safe yield rate of 1.5 igpm. Permeability in the metamorphic rock has been determined to be of the secondary type, transmitted through fractures and along joint systems.

For the period of recorded observation, May 1978 - 1981, the high static water level, 73.08 ft. (A.S.L.), occurred n May 1, 1978 and the low static water level, 67.08 ft. (A.S.L.), occurred on August 31, 1978. Available data indicated that the water table may fluctuate 6.00 feet annually (difference, absolute maximum - absolute minimum). This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

OAKFIELD PARK - N.S.D.O.E. 044
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 90.34 FEET ABOVE SEA LEVEL
(1978 - 1981)
(1978)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April		Start		
May	1	73.08	31	68.15
June	1	68.15	30	67.78
July	1	67.78	31	67.34
August	1	67.34	31	67.08
September		B		B
October	27	67.56	5	67.33
November	30	67.49	17	67.36
December	18	67.62	4	67.44

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH'	CASING DIAM'
0-156 clay & sandy till	225	157	6
156-225 quartzite			

OAKFIELD PARK - N.S.D.O.E. 044
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 90.34 ABOVE SEA LEVEL
(1978 - 1981)
(1979)

MONTH	DAY	HIGH	DAY	LOW
January	30	72.83	7	67.55
February	1	72.16	25	67.60
March		B		B
April		B		B
May	31	69.08	23	67.60
June	6	68.38	30	67.41
July	5	67.53	27	67.34
August	15	67.48	27	67.30
September	7	67.35	21	67.21
October	25	67.46	1	67.24
November	15	69.29	2	67.39
December	27	69.34	3	67.56

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

OAKFIELD PARK - N.S.D.O.E. 044
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 90.34 ABOVE SEA LEVEL
(1978 - 1981)
(1980)

MONTH	DAY	HIGH	DAY	LOW
January	24	68.31	11	67.78
February	29	68.15	7	67.98
March	13	68.31	28	68.09
April	23	70.36	4	68.09
May	10	69.24	31	67.94
June	9	68.00	30	67.86
July	1	67.92	30	67.64
August	1	67.68	31	67.39
September		X		X
October	26	67.43	25	67.26
November	29	68.41	3	67.35
December	4	68.94	16	67.50

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - Well Pumped (Other)

OAKFIELD PARK - N.S.D.O.E. 044
MONTHLY HIGH AND LOW STATIC WATER LEVEL READINGS
IN FEET ABOVE SEA LEVEL
GROUND LEVEL ELEVATION 90.34 ABOVE SEA LEVEL
(1978 - 1981)
(1981)

MONTH	DAY	HIGH	DAY	LOW
January		C		C
February	12	70.82	25	67.87
March	17	69.38	11	67.82
April		A		A
May		A		A
June	10	68.03	30	67.76
July	15	67.87	31	67.65
August	18	67.68	31	67.46
September	26	67.60	16	67.40
October	28	68.06	15	67.54
November	21	70.93	1	67.62
December	6	71.25	2	67.90

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

DURHAM - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 045

Nova Scotia Department of the Environment,"Regional Water Resources, Pictou County" Test Hole Durham 3
Date Drilled: 1978, E. D. Stewart Ltd., License No. 4

Purpose: Constructed to aid in the evaluation of the occurrence, quality, and quantity of groundwater as reported by John E. Gibb and Karen A. McMullin, 1980

Pump Test:	duration	72 hrs.
	date started	July 25, 1978
	pumping rate	0'-60' 30 igpm, 60'-120' 60 igpm
		120'-4320' 100 igpm
	status	observation well
	transmissibility	T = 971 igpd/ft.
	storativity	$S = 3.2 \times 10^{-4}$

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in 1978, the specifications for test hole 3 were; well depth 247 feet, casing diameter 6 inches, and a penetration of 227 feet of bedrock. Surficial geology of the area was classified as a sandy till of the Pleistocene Epoch. The underlying bedrock has been identified as the Boss Point Formation of the Riversdale Group associated with the Pennsylvanian Period. Bedrock of this formation consisted of greenish grey and brownish red sandstones, siltstones, and shale, with minor pebble and limestone pebble conglomerates (Bell, 1944).

Drawdown measurements taken at test hole 3 during a 72 hour pump test conducted for test hole 2, r = 300 ft., indicated the coefficient of transmissibility was 971 igpd/ft. and the coefficient of storativity 3.2 X 10^{-4} (Gibb and McMullin, 1980). Permeability in the Riversdale Group was primarily of the secondary type transmitted through fractures and along joint systems (Hennigar, 1972).

This test hole is still being monitored as part of the Nova Scotia Department of the Environment's Observation Well System.

DURHAM - N.S.D.O.E. 045

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 60 FEET A.S.L. (APPROXIMATELY)

(1979-1981)

(1979)

MONTH	DAY	HIGH	DAY	LOW
January				
February				
March				
April				
May		Start		
June	2	9.30	30	12.35
July	9	12.04	28	12.85
August	18	11.28	10	12.81
September	1	11.59	30	11.99
October	31	9.10	3	12.10
November	16	7.89	1	9.10
December	27	8.15	7	9.44

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LITHOLOGIC LOG'	WELL DEPTH'	CASING LGTH.'	CASING DIAM."
0-20 sandy till, 20-22 ss; 22-32 sh; 32-48 ss; 48-56 sh; 56-74 ss & sh; 74-90 ss; 90-100 ss & sh; 100-135 ss; 135-150 sh; 150-165 ss; 165-180 sh; 180-210 ss; 210-228 ss & sh; 228-247 ss	247	N/A	6

DURHAM - N.S.D.O.E. 045

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 60 FEET A.S.L. (APPROXIMATELY)

(1979-1981)

(1980)

MONTH	DAY	HIGH	DAY	LOW
January		B		B
February		A		A
March		A		A
April		A		A
May		B		B
June		B		B
July	4	11.60	31	12.45
August	1	12.45	31	14.20
September		B		B
October		B		B
November	30	8.75	3	13.11
December				

A - No Records

B - Poor Records - Float Stuck

C - No Records - Clock Stopped

V - No Records - Vandalism

X - (Other)

DURHAM - N.S.D.O.E. 045

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 60 FEET A.S.L. (APPROXIMATELY)

(1979 -1981)

(1981)

MONTH	DAY	HIGH	DAY	LOW
January	13	8.43	1	9.55
February	15	8.34	11	8.75
March	21	8.50	17	9.13
April		A		A
May		A		A
June	1	8.95	21	9.81
July	1	9.78	31	11.80
August	1	11.80	31	13.14
September		B		B
October	31	9.95	6	13.37
November	26	8.18	1	9.95
December	19	7.45	2	8.54

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

LAWRENCETOWN L1 - NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT OBSERVATION WELL 046

Map & File Number - 11-D -11-C-20
Nova Scotia Department of the Environment, "Test Drilling Program, Upper Lawrencetown, Halifax County", Test Hole L1
Date Drilled: March 16, 1977, H. J. Edward's Ltd., License No. 83

Purpose: Constructed to aid in the evaluation of; geological factors related to the salt water intrusion problem, the geochemistry of intrusion, and the position of the salt water/fresh water interface, in the Lawrencetown area. Conclusions reported in "Test Drilling Program, Upper Lawrencetown, Halifax County" by Heather J. Cross, 1980.

Pump Test:		
	duration	1 hr.
	date started	August 31, 1977
	pumping rate	1 igpm
	status	pumping well
	transmissibility	T = 12.6 igpd/ft.
	safe yield	Q_s = 1.06 igpm

Monitoring Equipment: Stevens Type F Recorder, Model 68

Constructed in March 1977, the specifications for test hole L1 were; well depth 200 feet, casing diameter 5 inches, and a penetration of 163 feet of bedrock. Surficial geology of the area consisted of a silty sand till containing quartzite boulders. Underlying bedrock has been identified as the Goldenville Formation of the Lower Ordovician Meguma Group. The formation was composed mostly of greywacke, quartzite and to a lesser degree slate.

The drilling program at Lawrencetown was undertaken to develop two piezometer nests, L1 and L2, L3 and L4. Observation wells L1 and L2 were located 50 feet from mean sea level and L3 and L4 were constructed 100 feet inland from the first. Each piezometer nest consisted of one well drilled to a depth of approximately 200 feet with approximately 140 feet of 6 inch casing and the other well drilled to a depth of approximately 75 feet with approximately 22 feet of 6 inch casing. The positioning and specifications of the wells were to enable a two dimensional analysis of the geochemistry and the salt water/fresh water interface.

Drawdown data from a one hour pump test conducted on test hole L1 indicated values of 12.6 igpd/ft. for the coefficient of transmissiblity and 1.06 igpm for the safe yield rate. Permeability in the metamoiphic rock was of the secondary type, transmitted through fractures and along joint systems.

LAWRENCETOWN - N.S.D.O.E. 046

MONTHLY HIGH AND LOW STATIC WATER LEVELS

READINGS ARE FROM TOP OF CASING TO STATIC WATER LEVEL (FT.)

DATUM POINT 4 FT. A.S.L. (APPROXIMATELY)

(1979)

MONTH	DAY	HIGH	DAY	LOW
January		Overflow	1	1.25
February		B		B
March	20	0.05	5	2.05
April	9	0.58	29	2.04
May	31	0.70	15	2.16
June	6	0.72	30	2.37
July	30	1.49	1	2.42
August	13	0.46	31	2.05
September	23	1.23	14	2.32
October		0.40	1	1.84
November		Overflow	2	1.41
December		Overflow	5	1.52

A - No Records
B - Poor Records - Float Stuck
C - No Records - Clock Stopped
V - No Records - Vandalism
X - (Other)

Lithologic Log'	Well Depth'	Casing Lgth.'	Casing Diam."
0-10 sandy, bouldery till	200	133	5
10-37 weathered bedrock			
37-140 quartzite			
140-150 slate			
150-175 quartzite			
175-180 slate & quartz			
180-200 quartzite			

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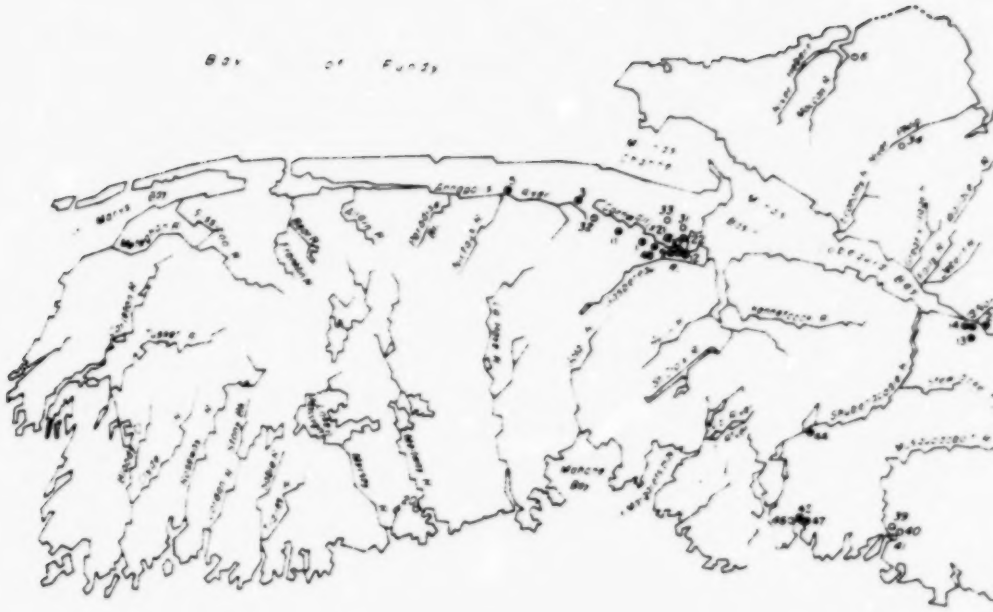
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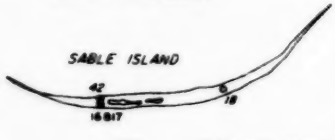

● Active well
○ Discontinued well

Map 1
NOVA SCOTIA DEPARTMENT OF THE ENVIRONMENT GROUNDWATER OBSERVATION WELLS

Scale 1: 1,800,000 approx.

POOR

QUALITY

ORIGINAL